Dean's Office

Do not remove

UNIVERSITY OF SANTA CLARA

Catalogue for the Eighty-Sixth Year
1936-1937

ANNOUNCEMENTS 1937-1938

University of Santa Clara

▼

COLLEGE OF ARTS AND SCIENCES

This College offers major courses in the Departments of Economics, English, History, Philosophy, Political Science, Biology and Chemistry leading to the Bachelor's degree.

Courses in the College of Arts and Sciences are approved by the American Medical Association for entrance to medical school.

COLLEGE OF BUSINESS ADMINISTRATION

A four-year course leading to the degree of Bachelor of Commercial Science.

COLLEGE OF ENGINEERING

Four- and five-year courses in Civil, Electrical and Mechanical Engineering.

COLLEGE OF LAW

A three-year full time day law course leading to the degree of Bachelor of Laws, following three years' pre-legal work in the College of Arts and Sciences.

SCHOOL OF DIVINITY

A four-year graduate course covering the final four years in the academic training of Jesuit priests

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For Catalogue of the University

Address

The Registrar

University of Santa Clara, Santa Clara, California

University of Santa Clara

CATALOGUE
FOR THE EIGHTY-SIXTH YEAR
1936-1937

▼

ANNOUNCEMENTS 1937-1938

▼

To mould men after the model of the Man-God, and thus form them to serve their fellowmen, their country and their God; this is the ideal and the purpose of the University of Santa Clara.

Member Northwest Association of Secondary and Higher Schools.

PUBLISHED BY THE UNIVERSITY OF SANTA CLARA
SANTA CLARA, CALIFORNIA
APRIL, 1937

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The Corporate Title of the University is

PRESIDENT AND BOARD OF TRUSTEES OF SANTA CLARA COLLEGE

BOARD OF TRUSTEES

LOUIS CLARENCE RUDOLPH
President

JOHN JOSEPH HAYES
Secretary and Treasurer

WILLIAM CHARLES GIANERA
JOSEPH RANDALL CROWLEY
EUGENE MICHAEL BACIGALUPI
JAMES HENRY STREHL
CLARENCE C. COOLIDGE, Esq.

EXECUTIVE BOARD

THE PRESIDENT THE SECRETARY
CLARENCE C. COOLIDGE, Esq.

CONSULTING ATTORNEY

CLARENCE C. COOLIDGE, Esq.

CALENDAR

1937

August

S	M	T	W	T	F	S
22	23	24	25	26	27	28
29	30	31				

Aug. 23-28: Registration Week. 28: Condition examinations. 30: Instruction begins.

September

			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Sept. 4: Close of Registrations. 6: Labor Day, a holiday. 7: General Assembly. 8-10: Students' Retreat. 11: Mass of the Holy Ghost.

October

					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Oct. 4-14: Midterm examinations. 30: Last day to submit subjects for Senior Theses and Sophomore Essays.

November

	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Nov. 1: All Saints' Day, a holiday. 4: Mass for deceased Faculty and Alumni. 16-24: Midterm examinations. 25-27: Thanksgiving holidays.

December

			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Dec. 8: Feast of the Immaculate Conception, a holiday. 9: Dramatic Art Contest. 19-Jan. 2: Christmas recess.

January

						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18				

Jan. 13-18: Final examinations.

CALENDAR

1938

January

S	M	T	W	T	F	S
			19	20	21	22
23	24	25	26	27	28	29
30	31					

Jan. 20-22: Registration for Spring Semester. 24: Instruction begins. 29: Close of registration.

February

		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

Feb. 5: Condition examinations. 17: Owl Oratorical Contest. 26: Senior Theses and Sophomore Essays due. Feb. 21-Mar. 3: Midterm examinations.

March

		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Mar. 28-Apr. 7: Midterm examinations.

April

					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Apr. 9: Essays for Prize Contests due. 14-18: Easter holidays. 21: Ryland Debate. 26: Coolidge Competition. 28: Charter Day, a holiday.

May

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

May 5: Engineers' Day. 24: Final examinations followed by orals. 26: Ascension Day, a holiday.

June

			1	2	3	4

June 4: Commencement.

OFFICERS OF ADMINISTRATION AND INSTRUCTION

LOUIS CLARENCE RUDOLPH, S. J.
President

JOHN PATRICK O'CONNELL, S. J.
Vice-President, Director of Discipline

WILLIAM CHARLES GIANERA, S. J.
Dean of the Faculties, Director of Studies

CLARENCE CHARLES COOLIDGE
Law
Dean Emeritus of the College of Law
A. B., Santa Clara, 1891, J. D., 1910. Admitted to practice, 1894. Dean of the College of Law, 1919-34. At Santa Clara since 1909.

WILLIAM EUGENE DONNELLY, S. J., S. T. D.
Moral Theology
Dean of the School of Divinity

EDWIN JOHN OWENS
Law
Dean of the College of Law
A. B., Holy Cross, 1919; LL. B., Harvard, 1922. Admitted to practice, Massachusetts, 1922; United States District Court, 1927. Professor of Law, Boston College, 1928-33. Dean of the College of Law since 1934. At Santa Clara since 1933.

GEORGE LEONARD SULLIVAN
Engineering
Dean of the College of Engineering
B. Sc. in M. E., University of Nebraska, 1908; M. E., University of Colorado, 1910; Ph. D., Santa Clara, 1914. Instructor in Mechanical Engineering, University of Colorado, 1908-11; Assistant Professor of Mechanical Engineering, Montana State College, 1911-12; Phelps-Dodge Corporation, 1918 (on leave from Santa Clara). Dean of the College of Engineering since 1918. At Santa Clara since 1912.

EDWARD JOHN KELLY
Accounting
Dean of the College of Business Administration
B. S., University of California, 1924; C. P. A., State of California, 1929. Lecturer in Accounting, University of San Francisco, Evening Division, School of Commerce, 1929-1934; Acting Instructor in Economics, Stanford University, Spring Quarter, 1937. Dean of the College of Business Administration since 1929. At Santa Clara since 1925.

HUGH COLUMBUS DONAVON, S. J.
Religion
Dean of Men

EDWARD ALEXANDER AMARAL, M. D.
Visiting Physician

HUNTER SHERMAN ARMSTRONG
Law
LL.B., University of Cincinnati, 1885; A.B., Marietta College, 1889; LL. D., Santa Clara, 1930. Admitted to practice, Ohio, 1886; California, 1930. General law practice, 1891-1910; Solicitor, Law Department, Pennsylvania Railway Company, 1910-27. At Santa Clara since 1927.

PABLO AVILA
Spanish
A. B., Stanford (French) 1931; A. M., Stanford, 1932. Teaching Assistant, Stanford, 1933-1936. At Santa Clara since 1936.

EUGENE MICHAEL BACIGALUPI, S. J., Ph. D.
Physics

JOHN FORD BAECHER
Law
S. B., Georgetown, 1925, LL. B. 1928; LL. M., Harvard, 1932, S. J. D. 1934. Admitted to practice, Virginia, 1928; United States Supreme Court, 1935. Assistant to Prof. Joseph H. Beale, Harvard Law School, 1933-34. At Santa Clara since 1935.

ERNEST TERRILL BARCO
Military Science and Tactics
A. B., Florida, 1910; LL. B., George Washington U., 1922; Major, F. A., U. S. Army; Graduate, Field Artillery School. At Santa Clara since 1936.

GEORGE ALBERT BARSI
Physical Education
B. S. (in Econ.), Santa Clara, 1930; B. S. (in Ph. Ed.), St. Thomas, 1933; Graduate Student in Phys. Educ., New York U., 1934. Instructor in Physical Education and Director of Football and Basketball, College of St. Thomas, 1934-35. At Santa Clara since 1935.

JAMES MARIUS BECCHETTI
Commercial Law
A. B., Santa Cara, 1925, LL. B., 1926. At Santa Clara since January, 1930.

EDWIN ALANSON BEILHARZ
History, Political Science
A. B., Creighton University, 1931; M. A., The University of Nebraska, 1934. Principal, Roseland High School, Roseland, Nebraska, 1931-1933. University Fellow in History, University of California, 1934-1935. Emmanuel S. Heller Memorial Scholar in History, University of California, 1935-1936. At Santa Clara since 1936.

EDWARD RICHARD BOLAND, S. J.
History

LLOYD LAWRENCE BOLTON
Biology
B. A., University of British Columbia, 1922, M. A., 1924; Ph. D., Cornell, 1932. Assistant in Biology, University of British Columbia, 1922-24; Graduate Student, University of Toronto, 1924-26; Research Assistant, International Fisheries Commission, Seattle, 1926-27; Assistant in Histology

and Embryology, Cornell, 1927-28 and 1931-32; Instructor in Biology, University of Saskatchewan, 1928-29; Instructor in Zoölogy, University of Washington, 1929-31. At Santa Clara since 1932.

JOHN MAY BURNETT
Law
A. B., Santa Clara, 1925, LL. B., 1926. Admitted to practice, 1926. At Santa Clara since 1928.

LAUREN WILDE CASADAY
Economics
A. B., University of California at Los Angeles, 1927; Teaching Fellow in Economics, University of California at Berkeley, 1928-31 Statistician, S. E. R. A., 1934-35. At Santa Clara since January, 1932.

LEONARD JOSEPH CASANOVA
Assistant Director Football and Intra-mural Sports
Ph. B., Santa Clara, 1927. Football Director, Belmont Boys' School, 1927-1928; Sequoia Union High School, 1928-1936. At Santa Clara since 1936.

ALBERT MICHAEL CASEY, S.J., S.T.D., Sc.Lic.
Sacred Scripture

VINCENT A. CASEY, S.J.
Classics

ARTHUR VINCENT COGHLAN, S. J.
Philosophy

JOHN THOMAS COLLINS, S.J.
Latin

RAYMOND F. COPELAND, S.J.
English, Religion

JAMES CORBETT, S.J.
Philosophy

JOSEPH F. DECK
Chemistry
A. B., St. Louis University, 1928; M. S., 1930; Graduate work, University of Michigan, 1929; Ph. D., University of Kansas, 1932. Research Chemist, Stewart Inso Board Corporation, 1932-1935; Quality Supervisor, United States Gypsum Company, South St. Joseph, Missouri, 1935-1936. At Santa Clara since 1936.

CORNELIUS FRANCIS DEENEY, S. J., Ph. D.
Political Science

PATRICK H. DEIGNAN, S.J.
Religion

WILLIAM ABBOTT DILL
Zoölogy
A. B., Stanford, 1930; Graduate Student, Hopkins Marine Station, since 1930. At Santa Clara since January, 1932.

WILLIAM JOHN DILLON
Registrar
B. S., San Francisco, 1931. At Santa Clara since 1935.

JAMES F. DONOVAN, S. J., S. T. D., Agrégé Gregorian University
Fundamental Theology.

RUSSELL G. DUFF
Military Science and Tactics
B. S., Virginia Military Institute, 1921; Captain,F. A., U. S. Army; Graduate, Field Artillery School. At Santa Clara since 1936.

WILLIAM J. DUNNE, S. J.
Education

AUSTIN JOSEPH FAGOTHY, S. J.
Dogmatic Theology

JOHN BERKERY FERGUSON, S. J.
Latin

FLOYD GRAYSTON FISHER
Mathematics
A. B., University of California, 1932; M. A., 1933. Teaching Assistant in Mathematics at University of California, 1933-1936. At Santa Clara since 1936.

JUSTIN H. FITZGERALD
Director of Baseball
At Santa Clara since 1916.

EDMUND CLARENCE FLYNN
Engineering
B. S. in C. E., Colorado College, 1919; M. S., Iowa State College, 1925. Assistant Professor (Highway Engineering and allied subjects), Iowa State College, 1921-30. At Santa Clara since 1930.

JOHN DENNIS FOLEY
Commercial Law
A. B., Santa Clara, 1930, LL. B., 1932. Admitted to practice, 1932. At Santa Clara since 1933.

FREDERICK C. GERLACH, M. D., LL. D.
Visiting Physician and Surgeon.

GEORGE ALDEN GILBERT, S. J.
Curator of Museums

MARTIN CHRISTOPHER GLAVINA
German
A. B., California, 1926, A. M. 1928; Student, School of Education, University of California, 1929-30. Teaching Assistant, University of California, 1923-24. Graduate Student, Stanford University, 1932-35. At Santa Clara since 1930.

EDWARD HAGEMANN, S.J.
Ecclesiastical History

HERMAN J. HAUCK, S.J.
English, Religion

JOHN JOSEPH HAYES, S. J.
Secretary and Treasurer

ROBERT EMMET HAYES
Law
A. B., Holy Cross, 1926; LL.B., Boston College, 1933. Admitseums.

ted to practice, Massachusetts, 1933. At Santa Clara since 1934.

RICHARD MANNING HERMES
Mathematics
B. E. E., Santa Clara, 1934. At Santa Clara since 1935.

*BERNARD ROSECRANS HUBBARD, S. J.
Geology

LOUISE MARY JENKS
Assistant Librarian

CYRIL ROBERT KAVANAGH, S. J.
Philosophy
Librarian

JAMES EDWARD MALONE, S. J.
Ecclesiastical History

FENTON JOHN McKENNA
Dramatics, Public Speaking
Ph. B., Santa Clara, 1928, LL. B., 1930, J. D., 1933. Instructor in English and Public Speaking, Bellarmine College Preparatory, San Jose, 1928-30. At Santa Clara since 1930.

ROBERT EMMET McMAHON, S. J.
Greek

+JOHN PETER MILLER
French
Ph. B., Louvain (Belgium), 1895; A. M., Chicago, 1910. Teacher of French, High School, Dubuque, Iowa, 1909-17; Instructor in French, U. S. Army, 1917-18; teacher of French, high school, Vancouver, Wash., 1918-24; Instructor in Modern Languages, Whitman College, 1924-29, Columbia University (Portland), 1929-31, University of San Francisco, 1931-34. At Santa Clara since 1935.

ALBERT JOSEPH NEWLIN
Associate in Meteorology and Seismology
B. S., Santa Clara, 1913, LL. B., 1914, J. D. 1916, D. Sc. 1934. At Santa Clara since 1918.

UMBERTO OLIVIERI
Italian
B. A., Royal Lyceum Ennio Quirino Visconti, Rome, 1903; Doctor of Laws, University of Rome, 1910. Professor of English Language and Literature, University of Rome, 1920. At Santa Clara since 1932.

BARTHOLOMEW L. O'NEILL, S. J.
Dogmatic Theology

JOHN PAGANI, JR.
Economics
B. C. S., Santa Clara, 1932. Teaching Fellow in Economics, University of California, 1932-34. At Santa Clara since 1934.

ERNEST FREDERICK PETERSON
Engineering
B. S. (E. E.), University of Colorado, 1916, M. S. (E. E.), and E. E., 1928. Instructor in Electrical and Mechanical Engineer-

*On leave of absence during the year 1936-37.
+Deceased, February 11, 1937.

ing, University of North Dakota, 1919-20; Instructor in Engineering Mathematics, University of Colorado, 1924-29; Instructor in Electrical Engineering, Valparaiso University, 1929-30. At Santa Clara since 1930.

RAYMOND E. PRENDIVILLE, S. J.
Philosophy

PAUL MELVIN ROLL
Chemistry
B. S., Santa Clara, 1935. California Chemical Company, 1935-1936. At Santa Clara since 1936.

ALBERT JOHN RUFFO
Assistant Director of Football
B. E. E., Santa Clara, 1931; LL.B., 1936. At Santa Clara since 1931.

HENRY ELLIS SANDERSON, JR.
Military Science and Tactics
Graduate, U. S. Military Academy, West Point, 1918; Captain, F. A., U. S. Army; Graduate, Field Artillery School. At Santa Clara since 1936.

EDGAR CHARLES SCHOTT
Engineering
B. S. in C. E., Santa Clara, 1926. Assistant Resident Engineer, California Bridge & Tunnel Co., 1926-27; Assistant City Engineer, Petaluma, California, 1927-29, Santa Clara, California, 1929-32. At Santa Clara since February, 1930.

*DONALD SHAM
Economics
A. B., University of Redlands, 1927; A. M., California, 1930. Fellow, Department of Economics, University of California, 1928-30; Lecturer, University of California Extension, since 1930. At Santa Clara since 1930.

LAWRENCE TIMOTHY SHAW
Director of Football
B. S., University of Notre Dame, 1922. Assistant Director of Physical Education, University of Nevada, 1922-1923; Director of Football and Track, North Carolina State College, 1924; Director of Football, University of Nevada, 1925-1928. At Santa Clara since 1928.

FRANCIS LOUIS SHEERIN, S. J., S. T. D., Agrégé Gregorian University.
Dogmatic Theology

EDWARD SHIPSEY, S. J.
English

JAMES HENRY STREHL, S. J.
Superintendent of Grounds and Buildings

JEROME SULLIVAN, S.J.
Dogmatic Theology

CLEMENS VAN PERRE
Director of Band and Orchestra

*On leave of absence during the year 1936-1937.

Graduate, Athenæum of Antwerp (Belgium), 1911; Graduate, Royal Conservatory, Antwerp, 1913; Graduate student, University of Louvain, 1913-14. Bandmaster, U. S. Army, 1917-19; Director of Music, Mt. Angel College (Oregon), 1920-25; Columbia University (Portland), 1925-32. At Santa Clara since 1932.

CHARLES J. WALSH, S. J.
English

HENRY WALSH, S. J.
English

ROBERT WILLIAM WARD
Chemistry
B. S., St. Ignatius College, 1928; M. S., Santa Clara, 1934. At Santa Clara since 1930.

ALVIN JOSEPH WOLF
English
A. B., Santa Clara, 1928, A. M., 1930. At Santa Clara since 1930.

FACULTY COMMITTEES

ATTENDANCE—The Director of Studies and the Director of Discipline.

CREDENTIALS AND REGISTRATION—The Director of Studies, Deans of various Colleges, and the Director of Discipline.

DISCIPLINE—The Director of Discipline and the Director of Studies.

DRAMATICS AND PUBLIC EXERCISES—The President, the Director of Studies, the Director of Discipline, and the Director of Dramatics.

EXAMINATIONS—The President, the Director of Studies, and the Professors of the various courses.

SCHOLASTIC STANDING—The Director of Studies and the Deans of the several Colleges.

STUDENT ORGANIZATIONS—The Director of Studies, the Director of Discipline and the Director of each organization.

STUDENT PUBLICATIONS—The Director of Studies, the Director of Discipline and the Faculty Moderator.

THESES—The Director of Studies and the Professors of the Upper Division Courses.

ATHLETICS—Board of Athletic Control. Two members of the faculty chosen by the President of the University, and four members of the Alumni Association also chosen by the President.

Advisory Board of Athletics. The deans of the constituent colleges and four members of the Alumni Association chosen by the President of the University.

GENERAL INFORMATION

LOCATION

The University of Santa Clara, conducted by the Jesuit Fathers, is situated at Santa Clara on the site of the old Mission, in the southern part of the San Francisco metropolitan district and immediately adjacent to San Jose. Frequent railroad, street-car and bus service provides easy access to the various Bay cities, and direct connections to all parts of California and the West.

The valley of Santa Clara is famous throughout the world for the beauty of its scenery, the salubrity of its climate, and the excellence of its fruits. The climate is mild and equable both in summer and winter, and on that account singularly favorable for persistent study and research as well as for the maximum of agreeable out-of-doors recreation which such work makes necessary.

HISTORY

Mission Santa Clara. On January 12, 1777, two Franciscan Padres, de la Pena and Murguia, planted the Mission Cross and laid the foundations of Mission Santa Clara on the banks of the Guadalupe, about a mile and a half from the University grounds. Two years later a flood destroyed both church and monastery, and the Padres in consequence removed the Mission to the second site, two blocks from the present church. There, on November 9, 1781, they laid the foundation of a large adobe church and mission buildings. Three years later, on May 15, 1784, the new church was dedicated by the Venerable Padre Serra, then Padre Presidente of the Missions of California.

Owing to damage by earthquakes in 1812 and 1818 the Padres were forced to build anew and this time selected the site of the present Mission. There, on August 11, 1822, a still larger church was dedicated. With the passing of time the original church was largely rebuilt, though the chancel and the interior arrangements remained substantially as originally constructed. In October, 1926, the Mission was destroyed by fire and rebuilt in 1927, along the lines of the original structure. This new Mission was dedicated in 1928. The restoration of the Mission was made possible by the generosity of friends in the Santa Clara Valley as well as friends and Alumni of the University throughout the State of California.

In 1836 Mission Santa Clara was secularized and passed from the hands of the devoted Padres into those of politicians, who robbed the Mission of her lands and oppressed or drove away her children. When Rt. Rev. Joseph Sadoc Alemany, O. P., arrived as Bishop of the Diocese of San Francisco in 1850, he found only one Franciscan in charge of the Mission, which had been restored by the American government, though in a sadly reduced form.

Santa Clara College. Desiring to save the remnants of the Mission, and also to start a college to meet the growing need of the times, the Bishop invited the Society of Jesus to Santa Clara. The

invitation was accepted, and accordingly on March 19, 1851, Father John Nobili laid the foundation of Santa Clara College.

He adapted the old adobe buildings to the requirements of a college. On April 28, 1855, the institution was chartered a University and continued to be known as Santa Clara College until 1912. It is the oldest institution of higher learning in the west. In 1857 the degree of A. B. was conferred on Thomas I. Bergin, the first to receive that degree from any California college.

During the subsequent years the College grew in influence and attendance. Several large new buildings were added, and for many years Santa Clara College, in both equipment and scholastic standing, ranked as the leading educational institution in the west. In its sixty years of existence as a college over seven thousand students were matriculated.

THE UNIVERSITY. In 1907 lectures were commenced with a view of preparing students to enter upon the professional courses in law, medicine and engineering. In 1911 the pre-medical course was established and the law school begun. Realizing, therefore, that the College was practically doing the work of a university, the President, Father James P. Morrissey, S. J., and the Board of Trustees adopted officially the name of "The University of Santa Clara," this decision going into effect on April 29, 1912.

In the summer of 1912, engineers of high standing were engaged to carry on the courses in engineering, and in the next summer a thoroughly equipped laboratory for engineering was prepared. In the same year the amount of work required of law students was increased and the classes in Law were thenceforth held at night.

The outbreak of the War suspended the plans for expansion and it was not until after its close that they were resumed. In 1923 an extensive building program was commenced, with a view to provide an adequate material basis for the University, and during the following years there has been added a group of new buildings, including Alumni Science Hall, 1923; Montgomery Laboratories, Seifert Gymnasium, Kenna Hall and the Service Building, 1924; Donohoe Infirmary, 1925; the remodeling of the Auditorium in 1926; the Ricard Memorial Observatory, the Seismological and Meteorological Stations, the New Mission Church in 1928, Nobili Hall in 1930, and the Varsi Library in 1931.

Accompanying the Building Program there has come a corresponding growth in attendance and scholastic work. In 1923 the Pre-Medical course was restored, and a four year College of Business Administration added. In 1925 the College of Law was increased to four years; and the Preparatory Department transferred to a separate campus on the former property of the College of the Pacific at College Park, San Jose. In 1926 the University celebrated its Diamond Jubilee and with enlarged facilities and equipment has entered upon a program of greater service to the Church and state. In August, 1929, plans were formulated whereby the standing of the College of Law would be greatly increased. Since August, 1930, all classes in the College of Law previously held at night have been taught under the new plan as morning classes. This plan put the College of Law on a basis more in accordance with the standards of the American Bar Association.

SYSTEM OF EDUCATION

The Jesuit system of education aims at developing side by side the moral and intellectual faculties of the student, at sending forth to the world men of sound judgment, of acute and rounded intellect, of upright and manly conscience. And since men are not made better citizens by the mere acquisition of knowledge, without a guiding and controlling force, the principal faculties to be developed are the moral faculties. Moreover, morality is to be taught continuously. It must be the underlying base, the vital force supporting and animating the whole organic structure of education. It must be the atmosphere the student breathes. It must suffuse with its light all that he reads, illuminating what is noble and exposing what is base, giving to the true and false their relative light and shade.

Because of its conservative system of education, its solid philosophical system and the highly specialized training required of those who qualify as professors, the University of Santa Clara is particularly prepared to train leaders of men.

Though the Catholic Religion is the religion professed by the Faculty and by the larger number of the students, members of all religions are admitted provided they are willing, for the sake of order and uniformity, to conform respectfully to the religious observances of the University.

GROUNDS AND BUILDINGS

The Campus. The University occupies a well laid out campus of approximately fifteen acres facing the Alameda, on El Camino Real from San Francisco to Los Angeles—the site of the third Mission Santa Clara. The buildings are grouped in a series of quadrangles around the Mission church in accordance with the Campus Plan prepared by Mr. John J. Donovan, which provides for a continuation of the original Mission style.

Mission Santa Clara, built in 1822, and the Students' Chapel, built in 1887, were destroyed by fire on October 25, 1926. Through the generosity of Alumni and friends of the University, a new Mission Church, a replica of the original church, stands on the former site, the heart and center of University activities. It serves as the Students' Chapel and enshrines the priceless relics of the old Mission rescued from the fire by the heroic efforts of the Faculty and students.

Bergin Hall, built in 1911 to replace the old Fathers' Building destroyed by fire in 1909, is a gift to Alma Mater of her first graduate, Hon. Thomas I. Bergin, A. B. '57. It contains the administrative offices of the University, reception rooms, residences of the Fathers and Scholastics, and the Library.

O'Connor Hall, built in 1912, is the gift of Mr. and Mrs. Myles P. O'Connor. On the first floor are the class-rooms of the College of Arts and Sciences and of the College of Law. The second and third floors contain private rooms for the upper class-men. In the basement are the coöperative bookstore and recreational facilities of the Associated Students, and the Paleontological and Geological Mu-

The Theatre, originally built in 1870 and completely reconstructed in 1926, is one of the largest theatres for amateur productions in the West, and has been the scene of such notable dramatic productions as the Passion Play and the Mission Play of Santa Clara.

Alumni Science Hall, built in 1924, is the gift of the Alumni of Santa Clara and contains offices and class rooms of the College of Engineering; the lecture rooms and laboratories of the Departments of Biology, Chemistry and Physics; and the electrical equipment service rooms.

Robert E. Kenna Hall, erected in 1924, is dedicated to Rev. Robert Emmet Kenna, S. J., student, professor and twice president of Santa Clara College. On the first floor are the offices, class rooms, laboratories and library of the College of Business Administration; and class rooms for the lower division classes. The two upper floors contain private rooms for the lower division students.

Montgomery Laboratories, erected in 1924, are dedicated to John J. Montgomery, "Father of Aviation," one time Professor of Physics in the University. On the first floor are the forge, wood-working and pattern-making, materials testing, mechanical, and electrical laboratories of the College of Engineering, together with office and lockers for laboratory classes. In 1930 a second story was added, in which are contained drawing and lecture rooms for Engineering students.

Seifert Gymnasium, erected in 1924, is a bequest of the late Dr. George W. Seifert, B. S. '79. It houses the plunge (40x100x10), the basketball court (65x100), locker rooms for Varsity and class teams, music rooms and students' lounging room, and is the center of social life at the University.

The Service Building, erected in 1924, houses the laundry, power and heating plant, and service rooms. The second floor provides a dormitory for employees.

Donohoe Infirmary, erected in 1925, is the gift of Miss Katherine Donohoe in memory of her father and mother, James and Rose Donohoe. It is a complete small hospital, with private rooms and ward, diet kitchen, dispensary, operating room, chapel, and offices for the infirmarian and visiting physician.

The Ricard Memorial Observatory is the gift of the Knights of Columbus of California to the "Padre of the Rains." This building, with its three domes, houses the telescopes, the spectroheliograph and other instruments. An underground passageway connects the vault of the Seismic Station to the Observatory. The new Seismic Station contains the 80Kg Wiechert Horizontal and Vertical Seismographs, three new Galitzin Seismographs of the long range type and the two new Wood-Anderson Seismographs, especially designed for local earthquakes. A specially constructed clock niche in the vault will contain a "Shortt Synchronome Clock" and will be kept at a constant temperature by means of a highly sensitive thermostatic control. The Observatory likewise houses the other necessities of a station of this type, such as battery rooms, photographic dark rooms and offices where records are kept for study and reference.

Nobili Hall, erected in 1930, is dedicated to the Rev. John Nobili, S. J., the first president of the University. On the first floor are the refectories for the Fathers, lay faculty, students, guests and employes; kitchens and service rooms. The second floor contains rooms for the lay professors as well as for the students. The third and fourth floors have rooms reserved entirely for students.

The Library. Construction of Varsi Library commenced on March 12, 1931 and the building was dedicated on October 10, 1931. The first floor has private study rooms for the Faculty, departmental reading rooms, offices of the librarians, students' reading room and stack room. In the stack room provision is made for 120,000 volumes, allowing for expansion. The main reading room affords simultaneous accommodations for one hundred and seventy-five readers. The second floor over the offices is for the exclusive use of the Law Library and contains reading rooms for students in the College of Law. The Library was made possible through the generosity of a distinguished alumnus of Santa Clara. It was named the Varsi Library in honor of the sixth President of Santa Clara, a life-long friend of the donor.

LABORATORIES

The laboratories of the departments of Biology, Chemistry and Physics are located on the three floors of the Alumni Science Hall.

The laboratories of the College of Engineering are located in the Montgomery Laboratories and provide complete laboratory facilities for engineering courses.

The Astronomical, Seismological and Meteorological laboratories are located in the Observatory group.

ENDOWMENT AND NEW BUILDINGS

The growth in the number of students and the work of the University has made it imperative that adequate buildings and endowment be provided. For this, and in order that Santa Clara may widen its scope as an educational institution of recognized standing, funds are necessary. Santa Clara stands in imperative need of an endowment. The work the University has accomplished in the past is an earnest of what she will do when increased facilities are afforded her.

An endowment, however, implies a founder or founders and benefactors. During the past few years, many have helped the University and generous donations have been made. The new Mission Church, the Donohoe Infirmary, Bergin, O'Connor, and Alumni Science Halls, Seifert Gymnasium, Ricard Memorial Observatory, Nobili Hall and Varsi Library are inspiring examples of such support.

But before other buildings, for which the plans of the University provide, may be added, further benefactions will be needed. Other institutions, even those state-aided and richly endowed, receive generous assistance in their work and hesitate not to ask for it. Santa Clara feels that generous friends are not lacking, though for the want of deeper thought on the matter, few realize the importance

of Christian educational work, the immense sacrifice it entails, and the merit there is in coöperating and sharing with Christian educators in their work for God and country and the welfare of the young men of our generation.

The Jesuit Faculty of the University has given its life-services freely and gladly to the work. Those who would share with them in this great enterprise can do so most effectively by rendering material aid and contributing funds for the continuance and development of the work.

Nobili Hall, providing modern kitchens and dining halls, and additional living quarters for lay faculty and students, was long an urgent need. To construct this building, it was necessary to borrow a large sum from the banks. The present indebtedness of the University is slightly over $300,000.

FORM OF BEQUEST

I give and bequeath unto the President and the Board of Trustees of Santa Clara College, a corporation duly incorporated under the laws of the State of California, a sum of.....dollars.

SCHOLARSHIPS

Every year deserving young men of high character and aspirations, whose means do not permit their attending the University, appeal to the Faculty for assistance to obtain the education for which their talents and vocations fit them. There is scarcely a university in the United States which is not provided with a fund for this purpose, and a relatively large per cent of successful college men spring from the class of assisted students. To contribute to such a purpose is clearly a noble benefaction. But this is especially so with regard to those who apply for help to the University of Santa Clara. They are as a rule young men of high standing, who understand the paramount value of an education in a university which aims at the highest intellectual development of the student, while devoting no less attention to the perfect development of his moral character. As a consequence, to assist them in attaining their desire is to aid picked young men whose future is more than ordinarily full of promise, and who are destined to exert a most powerful influence on those among whom their lives will be spent.

Through the generosity of friends of the University a few such scholarships have recently been established, but there is need for many additional scholarships, either through permanent endowment or by annual gifts.

STUDENT ORGANIZATIONS

College life must include the development of the social side of every student's character. Marked initiative and leadership in organized religious and social movements for the common welfare of his fellows, are qualities expected of college men generally. For this purpose the University student organizations and activities furnish splendid opportunity.

RELIGIOUS ACTIVITIES

As the first thought of the University is the encouragement of a sound religious life on the part of the student body, special attention is given to those sodalities and religious organizations sponsored by the Church, some of which have existed at Santa Clara for more than three quarters of a century.

Sodality of the Immaculate Conception. Its object is to promote in its members a special and filial devotion to the Immaculate Mother of God, to imitate her virtues, to encourage, both by word and example, an eminent purity of morals and a manly fidelity to the practice of religion.

The League of the Sacred Heart. The object of this Association is to foster in the students an earnest religious spirit, particularly a deep and tender love towards our Lord in the Sacrament of His Love, and a consequent reparation for the offenses committed against Him. To this end the First Friday Communion is zealously encouraged.

The Saint John Berchmans' Sanctuary Society. This society has as members those students who as a reward for good conduct and exact application to their studies have been allowed to serve at Mass and assist at the other services in the College chapel.

Holy Name Society. The purpose of this society is the public manifestation of belief in the Divinity of our Lord Jesus Christ.

DRAMATICS

An exceptionally high standard of dramatics has been set at Santa Clara from the beginning. Earliest records show that classical productions were quite the accepted thing even in the fifties, nor have traditions changed. In consequence of this students acquire a rare facility of expression and unusual ease in public appearances.

Each year a major dramatic production is staged, giving opportunity to a large proportion of the student body to participate. In the past these productions have included such notable performances as "The Mission Play of Santa Clara" and "The Light Eternal" by Martin V. Merle '06, and "The Passion Play of Santa Clara" and "The Weaver of Tarsus" by Clay M. Greene, '69.

DEBATING

The standard of debating is on a par with that of dramatics. In addition to the various debating societies intercollegiate debates are arranged each year with representative colleges and universities.

The Literary Congress held its first meeting on February 22, 1857, and has since then furnished its members an opportunity for exercise in debating and other forms of public speaking. It consists of two Houses, the Philalethic Senate and the House of Philhistorians.

The Stephen M. White Debating Society, established October 14, 1922, has for its object the fostering of debating and public speaking among Freshmen in the College of Liberal Arts.

MUSIC

The University Band and Orchestra furnish their members with the opportunity for ensemble playing at the public exercises of the University.

The University Choir and Glee Club furnish vocal music for Chapel services and the public exercises of the University.

ATHLETICS

Athletics at Santa Clara are under faculty control through the Board of Athletic Control and the Faculty Moderator, by whom arrangements for intercollegiate and intramural contests are made.

In direct charge of Athletics and Physical Training is the Director of Physical Education, who is assisted by professional coaches in the various major activities.

Block S. C. Society. Members of the university teams who have secured the university letter are organized into the Block S. C. Society in recognition of their athletic ability and for the encouragement of a high standard of athletic conduct.

The Athletic Managers Association is composed of volunteers from each class who cooperate with the management in the conduct of games and the care of equipment.

ALUMNI ASSOCIATION

The object of this association is to strengthen and perpetuate college friendships, to preserve in former students a warm regard for Alma Mater and a lively memory of the substantial benefits she has bestowed, to cherish and advance her interests, to maintain her honor and sustain her reputation by manly and honorable conduct. Officers of the Association for 1936-1937 are:

George H. Casey, A. B. '07, President
Louis J. Trabucco, B. S. '21, , LL.B. '23, Vice President
Francis X. Farry, A. B. '01, Vice President
Rodney A. Yoell, B. Litt. '14, Vice President
Baldo A. Ivancovich, Com. '04, Secretary
J. Nash Bradley, B. S. '87, Treasurer

PUBLICATIONS

The "Santa Clara." The "Santa Clara" is the official weekly newspaper of the University. The aim of the "Santa Clara" is: To publish the news of the University, to aid in constructive work, and to afford the students of Journalism an opportunity for actual practice in newspaper editing, managing and make-up.

The "Redwood." The "Redwood" is the University annual published by the students to serve as a medium for literary work of more than passing merit, as a record of University activities, and as an expression of the student life of the University.

The "Owl." The "Owl" is the monthly literary supplement of the "Santa Clara." This publication offers a medium for literary work among the students. The name was taken from the first literary magazine of the University.

STUDENT CONGRESS OF THE UNIVERSITY

The Student Congress of the University is the student body organized for the encouragement of student activities, particularly athletics, and such other work as may be recommended by the Faculty.

The Faculty Club. This is an organization of the religious and lay members of the Faculty, organized as a means to become better acquainted with the problems confronting the various departments and to mould the Faculty into a solid working unit. Educational, scientific and ethical problems are discussed by the members. Men of prominence in public affairs as well as educators from other universities are invited from time to time to address the Faculty Club on subjects of particular interest.

Each department of the University has its own organization for the study of technical problems and for the encouragement of social life among the students of the department.

The Engineering Society. This is an organization made up of students in the College of Engineering with the object of familiarizing them with the conduct of meetings of public bodies and the acquisition of ease in public speaking. Lectures to the engineering students are given before this body.

The Business Administration Association. This is an organization of students in the College of Business Administration for the study of business problems and for the encouragement of social activities among the students of the College. Frequent lectures are given before the Association by business men of prominence.

Mendel Club. This is an association of students preparing for the study of medicine, organized for the study of scientific subjects and the encouragement of such activities as are of particular interest to the students of this department.

The Woolsack. This is an organization of students in the College of Law for the discussion of legal subjects, for the encouragement of social activities among the students of Law, and for the upbuilding of the Law work of the University.

The Arts Society. This organization is made up of students of the College of Arts and Sciences whose object is to create and foster literary talent among the students and to preserve the classical traditions for which the University has been noted for more than seventy-five years.

The International Relations Club. This is an association of the students interested chiefly in Political Science. The purpose of this organization is the study of international problems of both the past and the future. It is affiliated to the Carnegie International Clubs.

The Galtes Chemistry Society. This organization is made up of students in the department of Chemistry whose object is to encourage the students in the study of Chemistry and to further such activities as are of interest to students of Chemistry.

EXPENSES

Resident Students

Board, Lodging and Tuition, per semester	$350.00
Deposit for Laundry, per semester	20.00
Room Deposit	10.00
Professional Medical Fee, per semester	5.00

Non-Resident Students

Tuition, per semester	125.00

For All Students

Matriculation Fee, paid at entrance	10.00
Student Activity Fee, per semester	10.00
Library Fee, per semester	5.00
Deposit for Books, per semester:	
Law Students	35.00
Engineering Students	30.00
Other Students	20.00

Military Science Fees and Deposits

First year students	12.00
Second year students	5.00

Special Charges

For registration on the first day after the opening of semester	2.50
For each day thereafter	1.00
For each examination taken out of time or to remove a condition	2.00
For course in Subject "A," each time	5.00
For each syllabus (synopsis of semester's work in any subject furnished by professor)	2.00
For each copy of the student's record other than the first	2.00
Laboratory Fees, per semester:	
Physics, each course	12.50
Engineering Geology, lecture and laboratory fees	15.00
Geology, lecture course only	2.50
Engineering, Freshman and Sophomore, shop or field	10.00
Engineering, Junior and Senior	25.00
Engineering, Jun., Sub-Sen., Sen., (Five year plan)	17.00
Biology 16, 21, 22, 101, 102, each	15.00
Biology 23, 24, each	12.50
Biology 105, 106, each	5.00
Chemistry 5, 6, 11, 12, 106, each	12.50
Chemistry 9, 10, 130, 131, 136, 150, 151, 180, each	15.00
Deposit in all laboratories to cover breakage, etc.	5.00
Graduation Diplomas and Certificates	10.00

The rental for private rooms covers charges for light, heat and care. No additional electrical appliances may be installed by students without permission of the Vice-President and the payment of extra charges.

Pocket Money and Incidentals

The amount of pocket money and money for incidentals is left entirely to parents and guardians. The University prefers that parents deal directly wih the students. Should, however, parents or guardians wish the Treasurer of the University to look after these

matters, they must deposit a sufficient amount with him and instruct him how the money is to be used. The University does not advance money for these purposes.

Infirmary Charges

Charges for the ordinary attendance of the University Physician, Nurse and attendants are provided for by the Professional Medical Fee. Medicines are charged at cost prices. For a room in the Infirmary, a dollar a day is charged.

Payments

All charges must be paid half-yearly in advance. Remittances should be made in the name of the University of Santa Clara. Deferred payments of bills or reductions can be sanctioned only by the President. For such a concession a fee of $1.00 per month will be charged for each $200.00 or fraction thereof remaining unpaid. If payment is deferred without a satisfactory understanding with the President, the latter is directed by the Trustees to remove the student in question from the institution. Semester bills and unpaid balances are subject to sight draft ten days after the bill is rendered.

It is distinctly understood that no student is entitled to take any semester examination or receive any diploma or degree or be furnished with a record of his credits while any bills due the University remain unpaid.

When a student is withdrawn temporarily or permanently from the University the Vice-President must be directly informed, and money supplied for traveling expenses.

Refunds

There will be no refund made on Fees or Special Charges.

Refund on Tuition and Lodging will be prorated quarterly according to the following plan: Any student withdrawing prior to November 1st or April 1st will have refunds made for the second half of the semester. No refund will be made for students withdrawing after the above dates. Refund on Board will be prorated weekly from the beginning of the week following the date of withdrawal. No refund will be made for withdrawal after the first day of the last month of each semester.

Articles to be Brought

The articles which every student coming to reside at the University should bring with him are, more or less: blankets, bed-covers, sufficient wearing apparel and toilet articles. Clothing to be sent to the laundry should be marked distinctly with the student's name before registration.

Student Employment

Employment is available at the University for a small number of students who need to earn the means to defray part of their school expenses. Positions range from that of waiter in the dining hall to that of secretary to a teacher. The compensation is according to the number of hours given to the work, and the amount earned is applied on the student's account with the University. Preference for employment is given to worthy students of high scholastic standing. All students so employed must carry their regular schedule with the weighted average of "C".

SCHOLARSHIPS

Besides the conditions laid down by the donors, all scholarships administered by the University are subject to the following conditions:

First: Recipients of scholarships will be chosen from among those students who have been registered at the University for at least one year.

Second: In choosing students who are to benefit by the various scholarships preference will be given to needy and deserving students.

Third: Students who are recipients of scholarships must maintain at least a C average.

Fourth: In selecting students for scholarships participation in extra-curricular activities will be taken into account in all cases. Such activities will be debating, dramatics, athletics, music and contributions to the University Weekly and Annual. Continuance in extra-curricular activities will be required of all holders of scholarships.

Fifth: Any student benefitting by a scholarship who has a semester average below passing in any subject will automatically forfeit said scholarship.

Sixth: Once a scholarship has been awarded, the student continues to benefit by it as long as he satisfies the prescribed conditions.

Seventh: Scholarships may be cancelled at any time by the Administration for any infraction of the rules and regulations of the University.

The Alice Phelan Sullivan Memorial Scholarship

This perpetual scholarship for a resident student was founded in 1912 by the gift of $12,500 from "A Friend" in memory of Mrs. Alice Phelan Sullivan of San Francisco.

The Jesse W. Bryan Memorial Scholarship

This perpetual scholarship for a resident student was founded in 1913 by the gift of $12,500 by Mrs. Sarah A. Bryan in memory of her son, Mr. Jesse W. Bryan, a former student of Santa Clara.

The James Dunne Scholarships

These perpetual scholarships were founded in 1931 by the gift of $200,000 from Mrs. Viola K. Dunne in memory of her husband James Dunne, '74. They are fifteen in number and are to be applied to resident students from the State of California

The James D. Phelan Scholarships

These perpetual scholarships were founded in 1931 by the gift of $50,000 from the Hon. James D. Phelan, Ph. D. 1903. They are twenty in number.

THE PRESIDENT'S SCHOLARSHIPS

The following scholarships, established in 1935 by the President of the University, to be awarded to needy and deserving students:

The Edward J. Hanna Scholarship

A four-year scholarship valued at $300 annually, founded in honor of His Excellency the Most Reverend Edward J. Hanna, D. D., Archbishop of San Francisco, on the occasion of his Golden Sacerdotal Jubilee.

This scholarship is at the disposal of the Archbishop of San Francisco to be given to a graduate of the Catholic High Schools of the Archdiocese.

The St. Robert Bellarmine Scholarships

Two four-year scholarships, one for a resident student valued at $300 annually and one for a non-resident student valued at $200 annually, to be given to graduates of Bellarmine College Preparatory School who shall be deemed most deserving by the Faculty of that school.

The St. Ignatius of Loyola Scholarships

Two four-year scholarships in the College of Engineering for resident students valued at $300 annually, one to be given to a graduate of St. Ignatius High School, San Francisco and one to a graduate of Loyola High School, Los Angeles. The recipient in each case to be chosen at the discretion of the Faculties of the respective institutions.

The St. Joseph Scholarship

A four-year scholarship for a non-resident student valued at $200 annually, to be given to a graduate of St. Joseph High School, San José, who shall be deemed most deserving by the Faculty of that institution.

LOAN FUNDS

The following loan funds are open to students of the University under such conditions as may be provided by the President:

Filipello-de Saisset Loan Fund. A loan fund of $1,500.00 established in 1925 by Mrs. E. A. Filipello and Miss Isabel de Saisset.

Alumni Loan Fund. A loan fund of $500.00, established in 1925 by the Alumni of the University.

PRIZES

The following extraordinary prizes are open to competition on the dates announced in the University Calendar. The Faculty Committee on Scholastic Standing reserves the right not to award any of these prizes in the absence of sufficient competition or a meritorious grade of scholarship. No one is eligible to compete a second time for a prize which he has already won, except after an interval of one year. Students who have not been in attendance for both semesters may not compete.

Nobili Medal. An annual prize of $60 founded by Joseph A. Donohoe, Esq., in honor of the first president of Santa Clara, Rev. John Nobili, S. J., to be given to the student who shall be deemed first in morals, obedience and application to study.

The Ryland Prizes. The Hon. Caius T. Ryland founded in 1897 an annual purse of $45.00, leaving its disposition to the discretion of the Faculty. This the Faculty, after due consideration, assigned to the University Literary Congress, organized February 22, 1857, establishing the Ryland Debate to be held yearly between the two branches, the Senate and the House, and divided the purse into three prizes of $20.00, $15.00 and $10.00, respectively. By an agreement between these societies, each in turn selects the subject to be debated, and the other is granted the choice of the side it will defend.

The McCann Prize. Annual prize of $15.00 founded in honor of Daniel B. McCann, B. S. '84, to be given for the best short story.

The Redwood Prize. Annual prize of $25.00 founded in 1908 by the executive committee of "The Redwood," and given for the best essay on an historical subject.

The Owl Prize. An annual prize of $25.00 founded by the directors of the former College Magazine, "The Owl," to be given to the winner of an oratorical contest in the University.

The Orella Medal. An annual prize of $25.00, the gift of Dr. Firmin R. Orella, B. S. '89, to be given to the writer of the best paper on a scientific subject.

The Barchi Prizes. Annual purses of $15.00 and $10.00 given by Joseph M. Durney, Esq., for the best paper in such scientific subject as shall be determined by the Faculty.

The William H. Leahy Prize. A gold watch, valued at $50.00, the gift of Mr. William H. Leahy, to be given to the winner of the Dramatic Art Contest.

The Coolidge Prizes. Two gold medallions to be given to the winners of the annual Coolidge Competition, the public Moot Court session of the College of Law.

The Bancroft-Whitney Company Prize. A set of law books awarded to the member of the senior class in Law having the highest average.

Two Silver Medals to be given to the following students who become most distinguished for good conduct and application to study:

1. The most distinguished **Resident** student.
2. The most distinguished **Non-Resident** student.

A Gold Medal to be given to the Junior who displays the highest qualities of leadership in Military Science.

Two Silver Medals to be given to the following students who display the highest proficiency in Military Science:

1. The most proficient Sophomore.
2. The most proficient Freshman.

ADMISSION

General Statement

Application for admission, accompanied by scholastic credentials and testimonials of character, should be filed with the Registrar on or before August 15th. It is obligatory to submit on entrance official records from the school last previously attended, together with a transcript of record of all previous high school and college credentials. These credentials are to be forwarded directly by the proper officer of the school last attended and not through the student.

Testimonials

All applicants for admission must present satisfactory evidence of good moral character and a certificate of honorable dismissal from the school last attended. In case of an intermission of study immediately preceeding registration the testimonial of good character should come from some responsible person who has been in a position to know the habits of the applicant during that time. Moreover, all applicants must at the time of registration submit the names of three persons to whom the Faculty may refer for further information regarding their character. The certificate of honorable dismissal from the school last attended should be accompanied by a letter from the principal certifying to the fitness of the candidate for successful college work.

No application for admission will be given consideration until the testimonials herein provided for have been offered.

Scholarship Credentials

Candidates for admission to any of the undergraduate courses of the University must qualify:

(a) For admission to Freshman standing:
   1. By evidence of the completion of the regular four-year high school course of the Preparatory Department of this University or of a similar course in an approved high school, or
   2. By passing an examination in subjects equivalent to fifteen standard high school units. The subjects to be presented must be arranged in advance with the University.

(b) For admission to the undergraduate course of his choice. The following are the prescribed entrance units for the respective degrees offered by the University in its various courses:

	A.B.	Ph.B. B.S. B.C.S.	Engrg.
English	3	3	3
Latin*	4		
Greek*	2		
Foreign Language*		2	2
Algebra	1	1	1½
Geometry	1	1	1½
History	2	2	1
Laboratory Science	1	1	1

*Students entering with only two units of Latin for the A. B. course or without two units of foreign language for the other

courses, will be given an opportunity to make up these deficient units during the first two years of college. Both units must be in the same language.

It is strongly recommended that the unprescribed units for the Ph. B. or B. S. degrees be in Mathematics, Languages (preferably Latin) or Sciences.

No credit is ordinarily allowed for physical education or music. One unit each may be accepted for commercial subjects, vocational subjects, and mechanical drawing.

Half units will be accepted only when presented in addition to integral units in the same subject or in half year subjects which constitute a complete course in themselves, e. g., Solid Geometry. Any two of the biological sciences (Physiology, Botany, Zoology) may be combined into a continuous year's course equal to one unit.

The University reserves the right to require entrance examinations in the case of applicants whose certificates show grades below 80% in the prescribed units. Admission on school certificates is in all cases provisional and if, after admission, a student fails in any subject for which a school certificate was accepted, credit for that entrance subject may be cancelled.

A matriculation deficiency in a subject continued in the University in which the deficient student attains a grade of C (77-84), may be removed by the proper faculty, on the recommendation of the professor, with the approval of the Dean of the Faculties. Students, however, are cautioned not to assume in advance that this will be done.

Examination in Subject A

All lower division entrants in the colleges at Santa Clara must, at the time of their first registration in the University, take an examination, known as the Examination in Subject A, designed to test their ability to write English without gross errors in spelling, grammar, diction, sentence structure and punctuation.

The examination in Subject A will be given within two weeks after the opening of each semester. The papers submitted in the examination will be rated as either "passed" or "not passed." Any student who is not present at the examination in Subject A which he is required to take will be rated the same as those who have not passed the examination.

All students who do not pass in the examination in Subject A will be required to take, immediately after their failure, a course of instruction known as the Course in Subject A, without unit credit toward graduation. This course will be given each half year two hours a week for the semester, beginning one week after the examination. Every student who is required to take the course in Subject A will be charged a fee of $5 and the charge will be repeated each time he takes the course.

Military Science

All undergraduates are required to take the lower division courses in military training unless exempted by the Professor of Military Science and Tactics. For this purpose all students at the time of entrance must report to the proper officers for assignments in military science.

Exemptions from military training are granted in the following cases:

1. Students who are twenty-one years of age when they first register at the University. Claims for this exemption MUST be accompanied by an affidavit from a parent or guardian.
2. Students unable to drill by reason of physical disability, as certified to by the University Physician.
3. Students whose military work elsewhere is accepted by the Professor of Military Science and Tactics as fulfilling the requirements.
4. Students who hold a commission or a Certificate of Capacity for a commission in the Army of the United States, Naval or Marine Corps Reserve.
5. Non-citizens of the United States.
6. Students entering the University after having attended another institution for a period of two years or more.

Students exempted from Military Science, in order to receive a degree must offer an equal number of units of other work in lieu of Military Science. Choice of these courses must be approved by the Dean of the college in which the student is registered.

Petitions for exemptions from, or deferment of, military training made by qualified students will not be received except for illness or physical disability occurring after enrollment in the courses. Students who make such petitions must be present at assignments while petitions are pending.

Students who complete the lower division courses and who are selected by the Professor of Military Science and Tactics may elect the upper division courses.

Students who complete the upper division courses, and who participate in such summer camps as the Secretary of War may prescribe, are eligible upon graduation for appointment and commission by the President in the Officers' Reserve Corps, which in the event of an emergency would furnish a great part of the commissioned personnel required for the temporary forces.

A student, subject to this requirement, who fails to appear for work in the course, will be liable to dismissal from the University Students so dismissed may be reinstated only upon recommendation of the Professor in charge and the approval of the President of the University.

Fees and Deposits

A deposit of $5.00 is required of all first and second year students registered for military science, to protect against loss of Government ordnance and to cover cost of military science text books. An additional sum of $7.00 is charged all first and second year students registered for the first time in military science, to cover cost of military boots and belts.

Uniforms, except boots and belts, are issued without charge to all students taking military training. Boots and belts are furnished at the cost price of approximately $7.00. At the end of the year, or sooner if the student leaves the University, all property except shoes and belts must be returned to the supply room. Any wilful damage to the uniform or equipment must be paid for by the individual student.

Admission to Advanced Standing

Admission to advanced standing is by specific action of the Committee on Credentials and Registration, which will evaluate all credits presented and determine the rating of the candidate.

Students from other institutions of recognized collegiate rank, including Junior Colleges with well established courses, may be admitted to such standing and upon such terms as the Committee shall deem equitable. Every such candidate is required, besides the prescribed testimonials of character and scholarship, to present a catalogue of the institution in which he has studied, and a full statement, duly certified, of the subjects he has therein completed and of the subjects there presented for entrance. The University reserves the right to determine after a test of at least one semester the amount of credit that the applicant may receive, and meanwhile he shall have the status of an unclassified student.

Admission of Special Students

Candidates for admission as special students must be persons of mature age who desire to take up special work in one department or in one subject with its related branches. Such special students are not candidates for a degree, but they may become candidates by satisfying the requirements for a regular course. No one will be admitted directly from a secondary school to the status of a special student. Entrance examinations in the subjects of fundamental importance for the work proposed will be assigned in practically all cases. Registration as a special student is for one semester only and no one may register for less than ten hours. Re-registration will be refused if the student has not shown earnestness and definiteness of purpose or if his work has been unsatifactory in whole or in part.

Admission of Foreign Students

Candidates for admission who come from foreign countries must present original and complete educational credentials, together with a catalogue giving full description of the courses. Provisional registration may be then given pending verification of the record and until the student concerned has successfully completed one semester's work of not less than twelve hours, when permanent matriculation may be given. Students from other than English-speaking countries must, in addition, possess sufficient knowledge of English to carry satisfactorily their class work.

RELIGIOUS TRAINING

To cultivate the heart, no less than to develop the intellectual and physical faculties of the student, is a duty kept constantly and sacredly in view.

As the Faculty of the University profess the Catholic religion, the exercises of religious worship are Catholic; but members of any religious denomination are received, provided they be willing, for the sake of order and uniformity, to conform respectfully to the religious observances of the University.

The university authorities are convinced that without religion there can be no education in the truest sense of the word, that is to say, no complete and harmonious development of the intellect and heart of man. They hold, furthermore, that religious truth, being definite and certain, may be taught with as much exactness as lan-

guage or any other branch. Accordingly the study of Christian Doctrine is required of every Catholic student, and two periods weekly are devoted to it in every class of every course. One unit per semester is allowed for this work.

STUDENTS' HEALTH SERVICE

The University exercises supervision over the health of students. Though a certain degree of sickness is inevitable among so many, its percentage is very slight. A physician is in daily attendance at the University without extra charge for minor cases. A certificate of health, either from the home or from the resident physician, is required of each student. Wholesome food, regular hours for rising and retiring, excellent climate and ample opportunity for outdoor recreation, all combine to improve the general health of the students who are registered at Santa Clara.

All students at the time of registration are required to undergo a physical examination under the supervision of the university physicians. Moreover, in accordance with the recommendation of the State Board of Health all students must present a certificate of vaccination or be vaccinated by one of the university physicians.

The University assumes no responsibility for injuries sustained by any student during play, in the swimming tank, in the gymnasium, or during athletic contests.

DISCIPLINE

Students whose homes are not in the neighborhood must reside within the University unless they are accompanied by their parents.

Students are not permitted to have books or other publications that have not been approved by the Vice-President.

The students' correspondence is subject to the inspection and control of the President.

To hold meetings or to form clubs or societies of any kind without the consent of the President, to gamble, to enter pool rooms, the habitual use of profane language, unbecoming conduct either within or without the precincts of the institution, the possession or distribution of indecent publications or pictures, intoxication, procuring or introducing intoxicating liquors, directly or indirectly, into the University, habitual idleness and violation of the rules of the University, obstinate refusal to submit to a punishment inflicted, absence from the University at night without leave, avowed principles of infidelity, express contempt or ridicule of religion, are offenses which expose the offenders to dismissal or suspension, as in the judgment of the Faculty shall be deemed necessary.

It is strictly forbidden for any student or group of students to haze any other student or subject him to any personal or physical indignity or treat him in such wise as may reasonably give offense.

No student will be permitted to leave the University on visits of any length, except during Christmas and Easter vacations, if such be the wishes of his parents or guardians. Parents are requested not to call their sons home at other times, except in cases of urgent necessity, as such interruptions, besides tending to prevent the acquisition of habits of concentration and persevering work, are apt to result in poor scholarship and interfere seriously with the students' entire scholastic training.

Students who, having left the University for the summer vacation, Christmas holidays, or other recesses allowed by the President, fail to be present on the day for the reopening of class, may, by the fact of absence, be excluded from the University, or at the discretion of the Faculty from privileges until the following semester, unless parents or guardians show cause of absence which the Faculty shall consider wholly sufficient.

Promptness in reaching the University on the day fixed for the opening of classes is necessary. It is essential that parents and students understand this clearly from the beginning of their connection with the University, as promptness in returning from vacation and recesses, which is requisite in order to prevent the loss of valuable time and the forming of habits of procrastination and negligence of duty, is strictly insisted on. Anyone returning after the date set down for the opening of the fall or spring semester will be required to pay a late registration fee of $2.50 for the first day and $1.00 for each day thereafter. Registration is not completed until a student has attended classes.

The University reserves the right to dismiss at any time a student who fails to give satisfactory evidence of earnestness of purpose and of interest, primarily in the serious work of college life. Dismissal may be made without specific charges and, in rare cases, perhaps on grounds that seem insufficient to students and parents. The University in these cases holds itself to be the more capable judge of what affects the interests of the institution and the student body.

Eligibility Rules

Except where otherwise specifically provided for by the Faculty, students taking part in public debates, oratorical or dramatic art contests or representing any department of the University in intercollegiate athletic events, as well as all those who are appointed on the staff of the university publications or as officers of student organizations, or are elected as captains or officers of any society, are subject, at the time of their selection or appointment, to the following eligibility rules: (1) They must have no conditions or failures; (2) They must have attained a satisfactory grade in conduct and application during the preceding month and a weighted average of C (77-84) in the last mid-term or semester examinations; (3) They must not be under censure.

Any student admitted to the University on a scholarship or as a student worker who fails to obtain a semester average of C (77-84) in any of his subjects forfeits his right to his position or scholarship.

The registration of a student is deemed a recognition on his part and on the part of his parents or guardians of compliance with all the rules and regulations of the University, and acceptance of all conditions laid down in the catalogue.

Registration Card

Before registering for instruction in any department, the student must obtain a card signed by the Treasurer of the University, showing that a satisfactory settlement of his account has been made. This card is handed to the Director of Studies, from whom the student must obtain another blank, write thereon the subjects elected and approved, and present it to his professors for their signature. This registration card is then returned to the Director of Studies, to be filed in his office.

SCHOLARSHIP

No student is eligible to enter any examination, written or oral, nor is he entitled to credit, unless he has been in attendance at 80 per cent of his classes, but students in the College of Law must have been present at 90 per cent of the classes. Absence caused by sickness will not excuse a student from the operation of this rule.

Written Examinations

Written examinations are held every six weeks in all subjects and in all departments. They are also held twice a year upon the work done during the preceding semester.

Oral Examinations

At the end of the scholastic year:

1. All students, regular or special, who have followed the courses in Philosophy, or any part thereof, in the upper division will be examined therein.
2. At the discretion of the Faculty, students of the College of Arts and Sciences may be required to pass an oral examination in their major subject.
3. Upper Division students in the College of Business Administration will be examined in their major subjects.

No student will be orally examined unless he has passed satisfactorily all the written examinations given at the end of each semester on the matter therein, or having been conditioned in the first semester examination, has removed the condition. The examination must extend to all work done during both semesters in the subjects indicated. The examination is to be conducted privately before a board of the Faculty who may increase the time allotted to any examination if they see fit. It does not determine the grade of a student's standing, but neither promotion nor credit is given without a successful examination.

General Requirements

In order to be accepted in fulfillment of any requirement for a degree, all work must be completed with grade D (70-76) or over, and the general average of the work must be of grade C (77-84) or above.

The grade of work completed during the semester is computed as follows (all work being marked on the basis of 100% for perfect work):

For each mid-term grade, class-work counts two-thirds and the mid-term examination one-third;

For each semester grade, the average of the three mid-term grades counts two-thirds and the semester examination one-third.

Where an oral examination is required, the student will not be graduated unless he attains therein a passing grade of D (70-76).

Special regulations as to the grades to be maintained by law students and candidates for degrees and certificates will be found under "College of Law, Graduation."

Amount of Work

In order to receive a degree, a student is required to complete the requisite number of semester hours and secure an equal number of

credit points, i. e., an average rating of C grade or better in all subjects.

A semester hour is the standard for computing the amount of a student's work. A semester hour is defined as one lecture or recitation one hour in length per week for one semester. Three hours of laboratory work are equivalent to one recitation hour. Two hours of preparation on the part of the student are required for each hour of lecture or recitation.

Regular work for Freshmen is **sixteen hours** per week. For all others it may be from **fifteen** to **eighteen** hours. Candidates for a degree will not be allowed to register for fewer than twelve hours of work.

No Freshman may register for more than **sixteen** credit hours (except in the College of Engineering) without special permission from the Dean of the Faculties, and such registration is not allowed to any student in his first semester of residence.

In the case of students of longer attendance, the Dean may grant permission to take studies up to **eighteen** credit hours a week, after the standing of the student in each study of the previous semester is examined and found to be B (85) or over. On the other hand, students carrying more than the normal amount of work who fail to maintain a standard of C (77-84) in all of their courses, may be restricted by the Dean to the normal number of units. Even if, because of the difficulty of making the desirable courses total the exact limit, a student is permitted to carry a study-list slightly greater than the limits here set, or if a student transfers from another college where a greater study-list is permitted or required, the credit towards the degree will be limited strictly according to this rule.

Quality of Work

A student's grade of scholarship is given according to the following schedule:

Above passing:	Below passing:
A (93-100), Excellent	E (60-69), Conditioned
B (85-92), Good	F (0-59), Failed
C (77-84), Fair	I, Incomplete
D (70-76), Passed	W, Withdrawn

Conditions

A grade of E (60-69) at the end of a semester indicates a condition. A student who is conditioned in two subjects may be excluded from the University, but without prejudice to his continuing his studies at another university.

Where a student is conditioned at the end of the semester, he will be permitted to remove the condition at the time set for the examinations for the removal of conditions.

Where a student is conditioned in a written or oral examination, given at the end of the school year, he will not be re-examined until the beginning of the next school year; provided however, that where a student is conditioned in a written or oral examination given as one of the final tests before graduation, he will not be re-examined until six months after receiving the conditions.

Where a student has been re-examined in any subject to remove a condition or reach a certain average, another examination may be permitted in the discretion of the Faculty; but in no case may it be taken until two months have elapsed since the former examination. If the student fails to reach the required average no further examination will be allowed.

Any student who enters his Senior year with a condition will have the status of a special student unless this condition is removed within one month after the opening of the first semester.

Failures

A grade of F (0-59) at the close of a semester indicates a failure. A failure in a subject means that the student must repeat the work in class the next time it is given. A student who fails in two subjects may be excluded from the University.

A conditioned student who fails to pass a satisfactory examination at the time set for condition examinations receives a failure in the subject, unless, on recommendation of his professor, the Faculty shall permit him to review a subject in which he is thus deficient with the assistance of an acceptable private tutor; in which case he will be excused from attending the recitations, but will be required to take the regular examination at the end of the year or half-year.

If the condition is received in a laboratory course, the student must make up the work in which he is deficient before the time of the condition examinations or receive a failure.

Credit Points

A candidate for a degree must gain not only the number of credit hours required, but his work must reach a certain standard of excellence. In addition to the required number of credit hours necessary for graduation, each student must earn an equal number of credit points, or an average mark in all subjects of C or better.

For a grade of A in a given course a student will receive three times as many credit points as there are credit hours in that course; for a grade of B, twice as many credit points; for a grade of C, as many credit points as credit hours; while D gives credit hours but no points. For every failure at the end of the semester, one credit point per credit hour is to be deducted from the total number of credit points that could otherwise be gained. Such lost points cannot be made up by repeating the course, even though the credit hour in such cases will count towards the total number of credit hours required for graduation.

For example: A four hour course in which the student receives the grade of A gives 12 credit points; if the grade is B, 8 credit points; if C, 4 credit points; if D, no credit points. If the grade is F, four credit points are deducted.

Thus, in a course where 128 credit hours are required for graduation, the maximum number of credit points that can be secured by a student is 384; the minimum, 128.

Candidates for graduation must attend any course of lectures or any other exercises that have been or may be authorized and equipped by the Faculty, even though such courses receive no value in credits.

No student will be advanced to full junior standing who has less than 64 credit hours and 64 credit points by the end of his sophomore year.

Electing Studies

All students must inform the Director of Studies in writing as to their choice of subjects, and no one may enter upon a course or relinquish one already taken up without his advice and consent, upon penalty of receiving no credit in the first case, and a condition in the subject abandoned, in the second.

Candidacy for Degree or Certificate

Every student who wishes to become a candidate for a degree or certificate in any department of the University must, not later than one month after his entrance, file with the Dean of the Faculties a written statement of the degree or certificate to which he aspires and the work which he proposes to do. He will then be informed whether he may be admitted as a candidate for such degree or certificate and whether the work proposed is satisfactory. Any change of purpose must be similarly announced and approved.

Thesis

Candidates for a degree must submit a thesis on their major or some cognate subject. The thesis shall consist of not fewer than 5000 words and shall be typewritten on National White unruled paper 8½x11 inches. The subject must be submitted to the Dean of the Faculties for approval not later than October 30 and the thesis itself handed in completed on February 15 of that same year. The presentation of an acceptable thesis is an absolute prerequisite for admission to final examination. The ultimate decision as to whether the effort merits the certificate or degree rests with the Committee on Theses.

COURSES, UNITS

Courses in the University are divided into three groups: The Lower Division, comprising the studies in the freshman and sophomore years; the Upper Division, comprising the studies in the junior and senior years, and leading to the Bachelor's degree; and Graduate Courses, comprising graduate studies, and leading to advanced degrees.

Courses in the Lower Division are numbered from 1 to 100. Courses in the Upper Division are numbered from 101 to 200. Courses for Graduate students are numbered from 201 up. Under certain conditions Lower Division courses may be taken for Upper Division credit, but in such cases it is expected that a higher standard of work shall be done and the instructor will assign additional work for such students. Upper Division subjects may be taken for Grad-

uate credit under such conditions as may be prescribed by the Dean of the Faculties and the professor in charge.

RECOMMENDATIONS TO OTHER SCHOOLS

No student will be recommended for entrance into any other university or college who has not maintained an average of B (85-92) in every subject throughout his course.

Students wishing Transcripts of Record in order to transfer to another school or for any other purpose should make early and seasonable application for the same. No such statements will be made out during the busy periods of examination and registration. Credentials which are accepted for admission become the property of the University and are kept permanently on file.

SESSIONS

The first semester begins about the end of August and ends about the middle of January.

The second semester begins about the middle of January and ends about the first of June.

As in most departments of the University new courses are not begun in January, students desiring to matriculate at the beginning of the second semester can only be received on condition that they are prepared up to the point then reached by the class which they desire to enter.

COLLEGE OF ARTS AND SCIENCES

CURRICULUM

The curriculum of the College of Arts and Sciences extends over a period of four years and comprises courses of study selected with special regard to their cultural value. In addition the courses selected are designed to afford the most solid foundation for the learned professions and the larger commercial pursuits characteristic of the present age. The curriculum selected assumes that the essence of education is concerned with the physical, mental and moral development of the whole man and that specialization in particular fields should rest upon the foundations thus laid. For this reason the curriculum of the College of Arts and Sciences insists on the advantage of a prescribed training in the humanities, rhetoric, mathematics, natural sciences, religion and the various branches of philosophy. Concentrated work in the College of Arts and Sciences is offered under the name of "majors" in the fields of Classical Languages, Economics, English, History, Philosophy, Political Science, Biology and Chemistry.

ENTRANCE REQUIREMENTS

The following are the required high school units necessary for admission to Freshman standing in the College of Arts and Sciences. A total of fifteen units, including the following, is necessary.

	A.B.	Ph.B. & B.S.
English	3	3
Latin*	4	
Greek*	2	
Foreign Language*		2
Algebra	1	1
Geometry	1	1
History	2	2
Laboratory Science	1	1

*Students entering with only two units of Latin for the A.B. course or without two units of foreign language for the other courses, will be given an opportunity to make up these deficient units during the first two years of college. Both units must be in the same language.

It is strongly recommended that the unprescribed units for the Ph.B. or B.S. degrees be in Mathematics, Languages (preferably Latin) or Sciences.

DEGREES

The College of Arts and Sciences confers the degrees of Bachelor of Arts, Bachelor of Philosophy and Bachelor of Science.

The Bachelor of Arts degree is conferred on those students who, presenting at entrance four credits in Latin and two credits in Greek, complete two more years of these languages in college in addition to the other requirements of the major of their choice. Students entering without the prescribed amount of Latin and Greek but who have had at least two years of credit in Latin may be permitted to make up the deficiencies in Latin and Greek during their college course.

The Bachelor of Philosophy degree is conferred on those students who, substituting modern language for Latin and Greek, complete the requirements for the major in Philosophy.

The Bachelor of Science degree is conferred on those students who, substituting modern language for Latin and Greek, complete the requirements for any of the majors offered other than Philosophy.

THE PRE-MEDICAL COURSE

The pre-medical department as distinct from the College of Arts and Sciences has been discontinued. The requirements prescribed for pre-medical students by the Council on Education of the American Medical Association are met by following for at least three years the science courses in the College of Arts and Sciences.

DIVISIONS OF THE COLLEGE

The college recognizes a lower and an upper division. The work of the lower division comprises the studies of the freshman and sophomore years. The completion of the lower division is a prerequisite for admission to the upper division. For any degree a minimum of 128 units is required, 64 of which the student will normally take in the lower division and 64 in the upper. Each unit represents one hour of the student's time at the University weekly, during one-half year, in lecture or recitation, together with the time necessary in preparation therefor, or a longer time in laboratory or other exercises not requiring preparation.

No student may register for more than sixteen hours (outside of Religion) without special permission of the Faculty, and such registration is not allowed to any student in his first semester of residence. After one semester of regular work, students beyond freshman may receive permission to take not more than eighteen units per semester, provided they have attained a weighted average of at least B (85-92) the preceding semester. On the other hand, students carrying more than the normal amount of work who fail to maintain a standard of C (77-84) in all their courses may be restricted by the Dean to the normal number of units. Even if, because of the difficulty of making the desirable courses total the exact limit, a student is permitted to carry a study-list slightly greater than the limits here set, or if a student transfers from another college where a greater study-list is permitted or required, the credit towards the degree will be limited according to this rule.

LOWER DIVISION

In the lower division it is expected that the student, in addition to fulfilling the prerequisites for the major work upon which he will concentrate in the upper division, will make an effort to establish a basis for that breadth of culture which will give him a realization of the methods and results of some of the more important types of intellectual endeavor, and a mental perspective that will aid him in reaching sound judgments. The lower division requirements were designed to provide in some measure for the accomplishment of this purpose, without unduly limiting the student's opportunity to satisfy his individual tastes and preferences.

Certain courses taken in the high school are accepted as fulfilling in part or in whole some of these lower division requirements.

It is desirable that the student should so arrange his high school program as to reduce the required work in the fields of foreign languages, mathematics and the natural sciences. This makes his program more flexible, gives him greater freedom of choice, and prepares him to pass more quickly into advanced work or into new fields of study. In no case, however, does the satisfaction of lower division requirements in the high school reduce the amount of work required in the lower division or for the degree. The lower division work presupposes the prescribed entrance requirements, the successful completion of Subject "A" and the specified requirements in the respective courses, along with an essay of not less than 5,000 words in the subject prerequisite for the upper division major, as provided in the General Regulations. The presentation of an acceptable essay is an absolute prerequisite for admission to final examinations.

Pre-legal requirements are met by students following the regular courses in the College of Arts and Sciences.

UPPER DIVISION

Only those students who have completed the lower division requirements will be registered as regular students in the upper division.

Degrees in the College of Arts and Sciences will be granted upon the following conditions:

1. The total number of units in college courses in the lower and upper divisions must be at least 128.

2. At least 60 units of upper division subjects must be completed after fulfilling the requirements of the lower division. Where lower division units are taken for upper division credit both the quantity and quality of such work must conform to upper division standards.

3. Candidates for graduation must complete a major of 24 upper division units in either Classical Languages, Philosophy, Economics, English, History, Political Science, Chemistry or Biology.

4. In addition to the units in the major chosen, a minor of 12 units in a specific department must be offered. For those choosing a major other than Philosophy a minor in Philosophy will be prescribed.

5. Candidates for a degree must submit a thesis in their major subject consisting of no fewer than 5000 words, as prescribed in the General Regulations. The presentation of an acceptable thesis is an absolute prerequisite for admission to final examinations. The ultimate decision as to whether the effort merits the degree rests with the Committee on Theses.

6. Candidates for graduation must moreover pass all prescribed oral examinations provided for in the General Regulations.

7. Residence of at least one year immediately preceding graduation is required for the granting of any degree.

Electives. Courses not taken as prescribed courses and not included in the students' major and minor sequences may be chosen as free electives to complete the 128 units required for graduation.

Additional Units. When the nature of the course permits, students taking a course as a Major or Minor, with the approval of the Dean of Faculties, may arrange to present work for additional credit in such course. Such work shall be done under the direction of the Professor in charge and in both quantity and quality shall conform to the required standard of the course.

Subject Requirements

(a) Prescribed subjects for the A. B. degree:

	Credit Hrs.		Credit Hrs.
English	12	History	6
Latin	12	Metaphysics	12
Greek or a Modern Lang.	12	Ethics	6
Science	8	Religion	8
Public Speaking	2	Logic	6
		Mil. Sc.	6

(b) Prescribed subjects for the B. S. and Ph. B. degrees:

English	12	Logic	6
Modern Language	12	Public Speaking	2
Science	8	Metaphysics	12
Religion	8	Mil. Sc.	6

Students who have received the Junior Certificate in other institutions must secure before graduation all the prescribed credits, except those in Science and History. In place of these they may offer such electives as are approved by the Dean of the Faculties.

The prescribed courses in Evidences of Religion will be required only of Catholic students.

COLLEGE OF BUSINESS ADMINISTRATION

GENERAL STATEMENT

The College of Business Administration aims to train students to meet the general as well as specific problems of modern industry.

A knowledge of accounting, banking, credit, labor conditions, marketing, insurance, statistics, business organization and administration and of business law is essential for anyone who aspires to take part in the organization and management of our modern specialized industrial system.

The courses in ethics, logic, psychology, history and science provide the student with the broader fundamental principles necessary for dealing with the industrial system in its social relationships.

Extreme specialization is not aimed at in the College of Business Administration, although each student is required to select a major in one of the three basic departments, i. e., courses relating specifically to Business Organization and Management, Finance or Accounting.

Regardless of the department selected for a major all students are required to include in their curriculum a sufficient number and diversification of courses to provide a comprehensive preparation for general business problems.

ENTRANCE REQUIREMENTS

The following are the required high school units necessary for admission to Freshman standing in the College of Business Administration. A total of fifteen units, including the following, is necessary.

English	3	Geometry	1
Foreign Language*	2	History	2
Algebra	1	Laboratory Science	1

*Students entering without two units of foreign language will be given an opportunity to make up these deficient units during the first two years of college. Both units must be in the same language.

It is strongly recommended that the unprescribed units be in Mathematics, Languages or Sciences.

BUSINESS LECTURES

Throughout the year a series of lectures is given by business and public men of prominence on various problems of interest to the student body. These lectures bring the students into personal contact with representative business men and also enable them to become familiar with practical business problems.

INSPECTION TRIPS

The close connection of the University with the business and industrial establishments of the San Francisco metropolitan district enables the faculty to arrange various inspection trips to such industries as may be of interest. In this way students are given a practical insight into the business organization and working of representative industries.

GRADUATION

The curriculum of the College of Business Administration extends over four years and leads to the degree of Bachelor of Commercial Science.

The work in this college is divided into that of lower division and upper division.

Graduation from this college requires the completion of 128 units of college work, of which 64 units constitute the amount required in the lower division of the University, and at least 60 of which are required in upper division.

LOWER DIVISION

The requirements for the lower division in the College of Business Administration are as follows:

1. The successful passing of Subject A, prescribed in all departments of the University.

2. The equivalent of 12 units in one of the following languages: French, Spanish, Italian, or German.

3. The successful completion of the following courses which are specifically required in the lower division:

English	6	units
Religion	4	"
Logic	6	"
Philosophy	6	"
Modern Languages	12	"
College Algebra	3	"
Mathematics of Investment	3	"
Principles of Economics (Econ. 1A and 1B)	6	"
Natural Sciences	8	"
Accounting (Econ. 10A and 10B)	8	"
Public Speaking 1, 2	2	"
Military Science	6	"
or		
Physical Education	1	"

SCHEDULE OF COURSES

Freshman Year

First Semester	Units
English (Eng. 1)	3
Logic (Phil. 9)	3
Modern Language	3
College Algebra (Math. 1)	3
Religion (Religion 1)	1
Natural Science	4
Military Science	1½
or	
Physical Education	½

Second Semester	Units
English (Eng. 2)	3
Logic (Philos. 10)	3
Modern Language	3
Mathematics of Investment (Math. 10)	3
Religion (Religion 2)	1
Natural Science	4
Military Science	1½
or	
Physical Education	½

Sophomore Year

Philosophy (Philos. 3)	3	Philosophy (Philos. 4)	3
Accounting (Econ. 10A)	4	Accounting (Econ. 10B)	4
Prin. of Economics (Econ. 1A)	3	Prin. of Economics (Econ. 1B)	3
Modern Language	3	Modern Language	3
Public Speaking	1	Public Speaking	1
Military Science	1½	Military Science	1½
Religion (Religion 3)	1	Religion (Religion 4)	1

UPPER DIVISION

The requirements for graduation are as follows:

Philosophy (Phil. 101-104)	12 units
Religion	4 units
Commercial Law	10 units
Statistics	4 units
Technical subjects	24 units
Electives	6 to 10 units
Total	60 to 64 units

The technical subjects represent practical and theoretical courses in applied economics given in the College of Business Administration.

COLLEGE OF ENGINEERING

INTRODUCTION

The foundation of the College of Engineering in the University of Santa Clara was the result of repeated and urgent requests that opportunities should be given young men ambitious to follow the engineering profession, to pursue and complete the studies leading to it in an environment and atmosphere conducive as well to deep persevering study as to cultural and moral development.

To meet this demand, the Faculty of the University has added sound and thorough courses in Civil, Electrical and Mechanical Engineering. As in all other departments of the University, the students are under the moral guidance of the Jesuit Fathers. The technical work of these departments is in the hands of experienced and practical engineers who devote their whole time and attention to the success of their work. As is traditional at Santa Clara, students in Engineering are given individual care, assistance, advice and encouragement. The work exacted is of the highest type; nevertheless, owing to this individual care and to the judicious admission of students as well as to the prompt elimination from the various departments of students found to be inadequately prepared in fundamental studies or in seriousness of purpose, there is very little likelihood and no excuse for failure on the part of the student.

The engineer today must be more than a machinist, electrician or surveyor. He can no longer be a self-made man in the old sense. His mind must possess the acumen and culture which only a broad college training and college association can give, and his acquaintance with and love of mathematics and science should be the foundation on which his knowledge of their technical application is based.

This is the ideal which Santa Clara cherishes for the engineers who shall receive their education from her, and the notable work which her graduates are doing proves that this ideal leads to success.

ENTRANCE REQUIREMENTS

The following are the required high school units necessary for admission to Freshman standing in the College of Engineering. A total of fifteen units, including the following, is necessary.

English	3	Geometry	1½
Foreign Language	2	History	1
Algebra	1½	Laboratory Science	1

It is strongly recommended that the unprescribed units be in Mathematics, Languages or Sciences.

COURSES—DEGREES

Courses are offered leading to the degrees of Bachelor of Civil Engineering, Bachelor of Electrical Engineering and Bachelor of Mechanical Engineering. These courses aim, first, to give the student a thorough knowledge of the sciences on which all Engineering is based; secondly, to develop judgment by practical work so that he may be able to use his knowledge and information to the best advantage.

Although the courses in the College of Engineering are arranged according to two definite plans, one of four years and one of five

years, students are strongly advised to follow the five year plan. Experience has shown that the amount of matter to be covered has become so vast that one can hardly derive the full benefit of an engineering education in four years.

Civil Engineering covers the field of structural work (steel, concrete and stone buildings and bridges), municipal engineering (roads, pavements and sewers), water power development, irrigation and railroad construction. These are all based on the fundamental sciences of Mathematics, Physics and Chemistry, and as much practice as possible is given to facilitate the application of these sciences to professional work.

All Freshman Civil Engineering students are required to attend a four weeks summer session in surveying (C. E. 4) immediately following the close of the spring semester.

Electrical Engineering has to do with the design and construction of electrical machinery and the various applications of electricity to the arts. Electrical and Mechanical Engineering are so closely interrelated that the courses of the first three years are the same, and it is only the Senior courses, such as Telephony and pure Electrical Design that are differentiated from the Mechanical Engineering courses.

Mechanical Engineering may be divided into three closely related lines, Design, Manufacturing and Power Generation. The courses in Design begin with mechanical drawing and continue with a study of mechanisms, strength of materials, stresses, adaptability, cost, and commercial worth of machines. Manufacturing has to do with the organization of commercial enterprise, systems of works management, efficiency systems, cost of materials and power and layout of machinery in a factory for maximum output. The subject of Power Generation is covered by courses on steam and gas engines, turbines, boilers, water motors and electrical generators, together with the proper operation of all classes of machinery and the application of power to them.

GRADUATE DEGREES

For the degrees of Civil Engineer (C.E.), Electrical Engineer (E.E.), and Mechanical Engineer (M. E.), it is required that the candidate be a graduate in the College of Engineering of this University who has been engaged in acceptable professional work for a period of not less than three years after receiving the Bachelor's degree. Candidates for these degrees must declare their candidacy and file with the Dean of the College of Engineering a detailed statement covering their professional study and experience and an outline of their proposed thesis not later than December 31st preceding the commencement at which they wish to receive the degree, and they must submit the completed thesis not later than one month prior to the date fixed for the annual conferring of degrees.

INSPECTION TRIPS

One important advantage of the University is its proximity to the many industrial establishments of the San Francisco metropolitan district and this opportunity is taken advantage of by special trips to special industries. In this way students are given a practical insight into the working of these engineering industries.

STUDENT BRANCHES:

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS

Student branches of the A. S. M. E. and A. I. E. E. have been established at the University, and are open to students of Mechanical and Electrical Engineering for the discussion of current problems.

REQUIREMENTS FOR GRADUATION

In all groups of the College of Engineering, 152 credits are required for graduation. A credit is given for each one-hour recitation, or lecture, per week, carried satisfactorily for one semester, or for three hours per week spent in laboratory, drawing room or shop. All regular students free from deficiencies in university work may register for 19 units of new work.

At least two summer vacations must be spent on engineering work before graduation. A detailed report of this work containing at least three hundred words must be handed to the Dean of the College of Engineering within one month of the opening of the first semester.

Before one is admitted to any degree a thesis must be submitted on a subject chosen by the student with the approbation of the Dean of the Faculties. It must bear on the matter studied or at least on cognate matter and must give evidence of original investigation of some engineering problem. It shall consist of no fewer than 5000 words and should be typewritten on paper 8½x11 inches. The submission of an acceptable thesis is an absolute prerequisite to admission to final examinations. The ultimate decision as to whether the effort merits the degree rests with the Committee on Theses.

Residence of at least one year immediately preceding graduation is required for the granting of any degree.

FRESHMAN YEAR
ALL BRANCHES OF ENGINEERING
FOUR- AND FIVE-YEAR PLANS

First Semester	Recit.	Lab.	Units	Second Semester	Recit.	Lab.	Units
Math 21(Alg.)	3		3	Math. 23 (Anal. Geom.)	3		3
Math. 22 (Trig.)	2		2				
Chem.5(inorg.)	3	6	5	Chem.6(inorg)	3	6	5
G.E.1(Mech.Draw)		6	2	G.E.2(desc.Geom.)		6	2
Engl.11	3		3	Engl.12	3		3
G.E.9	1		1	G.E.9a	1		1
Religion 1	2		1	Religion 2	2		1
Milit.Sc.	1	2	1½	Milit.Sc.	1	2	1½
*M.E.10(Shopwork)		3	1	*M.E.11(Shopwork)		3	1
**C.E.1,2 (Survey)	2	3	3	**C.E.3 (Survey)		3	1
				Physics 11	2		2

Summer School of Surveying. C.E.4 required of all Freshman Civil Engineering students immediately following the close of the spring semester. Fee $20 — 4 units

FOUR-YEAR PLAN
ALL BRANCHES OF ENGINEERING
SOPHOMORE YEAR

First Semester				Second Semester			
Math.24(Calculus)	3		3	Math.25(Calculus)	3		3
G.E.7(Tech.Mech)	4		4	G.E.8(Tech.Mech.)	4		4
Physics 12,13	2	6	4	Physics 14,15	2	6	4
English 13	3		3	English 14	3		3
Religion 3	2		1	Religion 4	2		1
*E.E.10(Electr.)		3	1	*E.E.11(Electr.)		3	1
*M.E.15(M.E.Lab.)		6	2	*M.E.4(Mach.Draw.)		6	2
**C.E.14 (Curves,etc)	1		1	**C.E.16(Adv.Surv.)	1		1
Milit.Sc.	1	2	1½	Milit.Sc.	1	2	1½

*For Students in Electrical and Mechanical Engineering.
**For Students in Civil Engineering.

CIVIL ENGINEERING
JUNIOR YEAR

First Semester				Second Semester			
C.E.118 (Graphics)		6	2	E.E.114(Electricity)	1	3	2
C.E.119(Fnd.& Subs.)	2		2	C.E.121(Struct.Anal.)	3		3
C.E.120(Struct.Anal.)	2		2	C.E.150(Hiway Eng.)	2		2
C.E.130(Mat.of Cnst.)	2		2	C.E.151(Highway Lab.)		6	2
G.E.109 Mech.of Mat.	5		5	G.E.121(Hydraulics)	4		4
G.E.110(Mat.Test.Lab.)		3	1	G.E.122(Hyd.Lab.)		3	1
Math.116(Diff.Equt.)	2		2	Philosophy 32	3		3
Philosophy 31	3		3	Religion 102	2		1
Religion 101	2		1				

SENIOR YEAR

First Semester				Second Semester			
Geology 33	2		2	C.E.124 (Str.Des.Lab.)		9	3
C.E.122 (Struct.Des.)	2		2	C.E.141 (Water Supply)	3		3
C.E.123 (Str.Des.Lab.)		9	3	C.E.160 (Ry.Constr.)	3		3
C.E.131 (Reinf.Concr.)	3		3	C.E.180 (Thesis)			2
C.E.140 (Sewerage)	3		3	Law 91 (Bus.Law)	1		1
C.E.142 (Sanit.Lab.)		3	1	G.E.127 (Seminar)	1		1
G.E.133 (Mgmnt.Engrg.)	3		3	Philosophy 34	3		3
Philosophy 33	3		3	Religion 104	2		1
Religion 103	2		1	Option	2		2
Public Speaking 1	1		1	Public Speaking 2	1		1

SENIOR OPTIONS

Second Semester			
C.E.132. (Reinf.Concr.)	2		2
C.E.152 (Hy.Adm.& Fin)	2		2
C.E.153 (Munic.Engrg.)	2		2
C.E.170 (Tunneling)	2		2

ELECTRICAL AND MECHANICAL ENGINEERING
JUNIOR YEAR

First Semester	Recit.	Lab.	Units	Second Semester	Recit.	Lab.	Units
M.E.118 (Heat Power)	2		2	C.E.100 (Surveying)		3	1
Phys.104 (Elect.Meas.)		3	1	M.E.119 (Heat Power)	2		2
M.E.105 (Mach.Des.)		6	2	M.E.106 (Mach.Des.)		6	2
E.E.101 (Elect.Engrg.)	3		3	E.E.102 (Elect.Engrg.)	3		3
E.E.109 (E.E.Lab.)		3	1	E.E.110 (E.E.Lab.)		3	1
G.E.110 (Mat.Test.Lab.)		3	1	M.E.116 (M.E.Lab.)		3	1
Math.116 (Diff.Equat.)	2		2	G.E.121 (Hydraulics)	4		4
G.E.109 (Mech.of Mat.)	5		5	G.E.122 (Hyd. Lab.)		3	1
Philosophy 31	3		3	Philosophy 32	3		3
Religion 101	2		1	Religion 102	2		1

ELECTRICAL ENGINEERING
SENIOR YEAR

First Semester				Second Semester			
E.E.106 (Electr.Des.)		6	2	E.E.107 (Pwr.Plt.Des.)		6	2
C.E.125 (Struct. Des.)		3	1	E.E.108 (Elect.Des.)		6	2
M.E.120 (Thermo.)	3		3	E.E.116 (Radio)	2		2
E.E.103 (Alt.Curr.)	3		3	E.E.104 (Alt.Curr.)	3		3
E.E.111 (E.E.Lab.)		3	1	E.E.112 (E.E.Lab.)		3	1
G.E.133 (Mgnt.Engrg.)	3		3	E.E.170 (Thesis)			2
Philosophy 33	3		3	G.E.134 (Mgnt.Engrg.)	2		2
Religion 103	2		1	Law 91 (Bus.Law)	1		1
Public Speaking 1	1		1	G.E.127 (Seminar)	1		1
				Philosophy 34	3		3
				Religion 104	2		1
				Public Speaking 2	1		1

MECHANICAL ENGINEERING
SENIOR YEAR

M.E.107 (Mach.Des.)		6	2	M.E.108 (Pwr.Plt.Des.)		6	2
C.E.125 (Struct.Des.)		3	1	M.E.117a (M.E.Lab.)		6	2
M.E.117 (M.E.Lab)		6	2	M.E.107a (Mach.Des.)		6	2
M.E.120 (Thermo.)	3		3	E.E.116 (Radio)	2		2
E.E.103 (Alt.Curr.)	3		3	E.E.104 (Alt.Curr.)	3		3
G.E.133 (Mgnt.Engrg.)	3		3	M.E.121 (Gas Eng.)	2		2
Philosophy 33	3		3	M.E.170 (Thesis)			2
Religion 103	2		1	G.E.127 (Seminar)	1		1
Public Speaking 1	1		1	G.E.134 (Mgnt.Engrg.)	2		2
				Law 91 (Bus.Law)	1		1
				Philosophy 34	3		3
				Religion 104	2		1
				Public Speaking 2	1		1

FIVE-YEAR PLAN
CIVIL ENGINEERING
SOPHOMORE YEAR

Math.24 (Calculus)	3		3	Math.25 (Calculus)	3		3
English 13	3		3	English 14	3		3
Religion 3	2		1	Religion 4	2		1
Physics 12,13	2	6	4	Physics 14,15	2	6	4
C.E.14(Curves,etc.)	1		1	C.E.16(Adv.Surv.)	1		1
Milit.Sc.	1	2	1½	Milit.Sc.	1	2	1½

JUNIOR YEAR

First Semester				Second Semester			
G.E.7(Tech.Mech.)	4		4	G.E.8(Tech.Mech.)	4		4
Philosophy 31	3		3	Philosophy 32	3		3
Religion 101	2		1	Religion 102	2		1
Math.116(Diff.Equt.)	2		2	C.E.150(Hiway Engrg.)	2		2
C.E.118(Graphics)		6	2	C.E.151(Hiway Lab.)		6	2
C.E.119(Fnd.& Subs.)	2		2	E.E.114(Electricity)	1	3	2

SUB-SENIOR YEAR

First Semester				Second Semester			
C.E.120(Struct.Anal.)	2		2	C.E.121(Struct.Anal.)	3		3
C.E.130(Mat.of Cnst.)	2		2	G.E.121 (Hydraulics)	4		4
G.E.110(Mat.Test.Lab.)		3	1	G.E.122 (Hyd.Lab.)		3	1
G.E.109(Mech.of Mat.)	5		5	Philosophy 34	3		3
Philosophy 33	3		3	Religion 104	2		1
Religion 103	2		1	C.E.141 (Water Supply)	3		3
Geology 33	2		2				

SENIOR YEAR

First Semester	Recit.	Lab.	Units	Second Semester	Recit.	Lab.	Units
C.E.122 (Str.Des.)	2		2	C.E.124 Str.Des.Lab.		9	3
C.E.123 (Str.Des.Lab.)		9	3	C.E.180 Thesis			2
C.E.131 (Reinf.Concr.)	3		3	G.E.127 Seminar	1		1
C.E.140 (Sewerage)	3		3	C.E.160 R.R.Const.	3		3
C.E.142 (San.Lab.)		3	1	Law 91 (Business Law)	1		1
G.E.133 (Mgnt.Engrg.)	3		3	Option	2		2
Public Speaking 1	1		1	Public Speaking 2	1		1

SENIOR OPTIONS

Second Semester			
C.E.132 (Reinf.Concr.)	2		2
C.E.152 (Hy.Adm.& Fin.)	2		2
C.E.153 (Munic.Engrg.)	2		2
C.E.170 (Tunneling)	2		2

ELECTRICAL AND MECHANICAL ENGINEERING

SOPHOMORE YEAR

First Semester				Second Semester			
Math.24 Calc.	3		3	Math.25 Calc.	3		3
English 13	3		3	English 14	3		3
Religion 3	2		1	Religion 4	2		1
E.E.10 Electricity		3	1	E.E.11 Electricity		3	1
Physics 12, 13	2	6	4	Physics 14, 15	2	6	4
M.E.15 M.E.Lab		6	2	M.E.4 Mech.Draw.		6	2

JUNIOR YEAR

First Semester				Second Semester			
G.E.7 Tech.Mech.	4		4	G.E.8 Tech.Mech.	4		4
E.E.101 Elect.Engrg	3		3	E.E.102 Elect.Engr.	3		3
Phys.104 Elec.Meas.		3	1	C.E.100 Survey		3	1
M.E.105 Mach.Des.		6	2	M.E.106 Mach.Des.		6	2
Math.116 Diff.Eq.	2		2	M.E.116 M.E.Lab.		3	1
Philosophy 31	3		3	Philosophy 32	3		3
Religion 101	2		1	Religion 102	2		1

SUB-SENIOR YEAR

First Semester							
M.E.118 Heat Power	2		2	M.E.119 Heat Power	2		2
G.E.109 Mech.of Mat.	5		5	G.E.121 Hydraulics	4		4
G.E.110 Mat.Test.Lab.		3	1	G.E.122 (Hyd.Lab.)		3	1
E.E.103 Alt.Curr.	3		3	E.E.104 Alt.Curr.	3		3
E.E.111 E.E.Lab.		3	1	E.E.112 E.E.Lab.		3	1
Philosophy 33	3		3	Philosophy 34	3		3
Religion 103	2		1	Religion 104	2		1

SENIOR YEAR

First Semester				Second Semester			
*E.E.106 Elect.Des.		6	2	*E.E.108 Elec.Des.		6	2
**M.E.107 Mach.Des.		6	2	**M.E.107a Mach.Des.		6	2
C.E.125 Str.Des.		3	1	*E.E.107 P.P.Des.		6	2
M.E.120 Thermo.	3		3	**M.E.108 P.P.Des.		6	2
G.E.133 Manag.Engrg.	3		3	*E.E.116 Radio	2		2
Public Speaking 1	2		1	G.E.134 Manag.Engr.	2		2
				Law 91 Bus.Law	1		1
				G.E.127 Seminar	1		1
				**M.E.121 Gas Eng.	2		2
				*E.E.170 Thesis			2
				**M.E.170 Thesis			2
				Public Speaking 2	1		1

*Electrical
**Mechanical

COLLEGE OF LAW

INTRODUCTION

The purposes of the College of Law are:

To give a thorough training in the fundamental principles of English and American Law, and the modification thereof peculiar to the State of California;

To guide the student by actual practice in office work and court procedure to a proper application of the principles of law to concrete cases;

Finally, to imbue the student with the correct ethical principles that should govern the legal profession.

The method of instruction followed in the Case System—an exact discussion of the cases presented in the best manuals with a view to deriving the principles which have determined their decisions. This study of rules and principles is never lost sight of by the professor and is rigidly exacted from the student in all examinations.

Lectures on particular phases of the law are given from time to time by the Faculty and by occasional lecturers.

The Faculty strongly recommend all students to take advantage of these courses because they are of great value in developing the reasoning faculties and in grounding the student in sound principles of ethical conduct—two things absolutely necessary to the soundest and highest success in the legal profession.

The College of Law maintains a system of practice courts which is modeled essentially on the California system of courts of record, and is presided over by members of the Faculty.

The court holds weekly sessions at which business is transacted in the manner usual before state courts, with the constant instruction, advice and correction of the presiding judges. On given statements of fact, student counsel issue, serve and return regular processes, prepare and file the proper pleadings according to the California Code practice, argue demurrers, impanel juries, examine witnesses, and in brief, carry their cases through from summons to final judgment.

Besides the weekly sessions of the court, an annual public competitive session known as the Coolidge Competition is held. Prizes are awarded to the winning counsel of the annual Coolidge Competition.

No student in the College of Law is allowed to take the State Examination for admission to the Bar before he has completed successfully the course of study prescribed by the University for the LL. B. degree or the Certificate in Law, and until such successful completion of the course has been certified to by the Dean of the College of Law and by the Dean of the Faculties. Immediate exclusion from the College of Law will follow any violation of this regulation.

ENTRANCE REQUIREMENTS

The College of Law is open to the following classes of students:

1. Those who have the degree of Bachelor of Arts, Bachelor of Science, or their equivalent, from this or some other college or university.

2. Those who have completed the first three years of college work either at this University or at some other college or university offering satisfactory courses leading to academic degrees.

3. Students who have followed courses in the College of Arts and Sciences at this University for three years, and who have maintained a satisfactory average, may satisfy the requirements of the Bachelor's degree in their Senior year by following the first year law courses and the courses in their major subject. Such students will then qualify for the Bachelor of Laws degree after two more years of study in the College of Law.

Students of the above classes are **regular students.**

4. Graduates of approved high schools with credits of recommended grade whose experience in business or whose private study has made up for their lack of collegiate training and whose maturity and seriousness fit them, in the discretion of the Faculty, for the study of law. Such are, for example, young men employed in insurance and real estate offices, banks, railroad offices and law firms, as well as those who have studied privately and so acquired knowledge for which, because of its variety and mode of acquisition, educational institutions are unable, as a rule, to give credit. These are **special students.** The number to be admitted each year is limited by the ruling of the Association of American Law Schools.

Advanced Standing. Any person who has been in regular attendance for at least one academic year at another law school, having similar admission requirements, may in the discretion of the Faculty of the College of Law, and on such terms, with or without examination, as it may prescribe, receive credit for the work done at such other law school not exceeding in any case two years. The last year must be spent in residence in the College of Law. Such transfer students must present a transcript of record showing an average of 80 per cent or better in their previous legal studies. Otherwise they will be placed on probation during the first semester of attendance.

REQUIREMENTS FOR GRADUATION

In order to graduate or receive the certificate, the student must have completed the regular course of three years in the College of Law. This implies:

1. Credit for at least seventy-two units in the College of Law (a unit is the equivalent of one hour a week for one semester). No student is allowed a unit in any course at which he has not been present ninety per cent of the class hours, and in which his average is not at least of D grade. All courses in the College of Law are prescribed courses.

2. Fulfillment of the requirement of residence in a standard law school, the last year of which must be spent in this College of Law.

3. In addition to the above requirements, candidates for the Juris Doctor degree must pass all required tests in Roman Law, International Law, and the History of English Law.

The Degree of **Juris Doctor** will be conferred on those students who, before beginning the study of law, have the degree of Bachelor of Arts or Bachelor of Science or their equivalent from this

University or another college or university of recognized standing, and who have also satisfied the requirements set down in 1, 2 and 3 above.

The Degree of **Bachelor of Laws** will be conferred on those students:

1. Who possess academic degrees before beginning the study of law and have satisfied the requirements set down in 1 and 2 above.

2. Who have completed three years of college work leading to an academic degree and have satisfied the requirements set down in 1 and 2 above.

The **Certificate in Law** will be conferred on special students who throughout their course have satisfied the requirements set down in 1 and 2 above.

THE COOLIDGE COMPETITION

This competition, established in 1934 in honor of Dean Emeritus Clarence C. Coolidge, consists in the public trial of a supposititious case before a bench composed of three judges chosen from the appellate courts of the State. The competing counsel, two on each side, are chosen from the students who compete in the weekly Moot Court sessions of the College of Law. Suitable prizes, as indicated elsewhere, are awarded to the successful counsel. The competition serves as a climax to the moot court work of the students throughout the school year. Its purposes are to stimulate among the students the desire for legal research and to develop their power for legal analysis.

SCHOOL OF DIVINITY

Curriculum

The curriculum of the School of Divinity extends over a period of four years, the final four years in the academic training of Jesuit priests.

The lectures in Fundamental, Dogmatic and Moral Theology, Canon Law and the Sacred Scriptures are given in Latin. Those in Ecclesiastical History, Liturgy, Ascetical and Oriental Theology, Hebrew, Biblical Greek and Pastoral Medicine are given in English.

All the courses in the School of Divinity are essentially graduate courses and fulfill all the requirements recently prescribed for the conferring of the degrees of Bachelor and Licentiate in Theology.

Entrance Requirements

Only students who have attained to a Master's Degree or its equivalent are admitted to the School of Divinity. The easy use of Latin as a medium of communication is an essential without which it will be impossible to follow the courses. A reading knowledge of ancient Greek is also required.

Examinations

In addition to the usual written examinations which are given at the end of every semester, there are other examinations which are oral and, by prescription, must be held in Latin. Fundamental, Dogmatic and Moral Theology and Canon Law examinations are held annually before a board of four examiners. The prescribed duration of these examinations in Fundamental and Dogmatic Theology is one-half hour at the end of the first and second years, and one hour at the end of the third year. In Moral Theology and Canon Law the oral examinations last for a quarter of an hour at the end of each session, but before the course is considered completed the student must pass another half hour's oral examination covering the entire subject. In this final examination the case method is used.

The final examination in Dogmatic Theology takes place at the end of the fourth year before a board of four examiners and a presiding official, and lasts for two hours. The subject matter covers the entire field, not only of Dogmatic Theology but of Scholastic Philosophy as well. For two months before this examination, attendance at lectures is optional for the candidate, so that ample time may be given him for organization of the subject matter and for a deepening of his understanding of the whole field.

DESCRIPTION OF COURSES

BIOLOGY

Students who wish to make Biology their major subject must complete Chemistry 5 and 6 as well as Biology 21 and 22 with at least a grade of C before beginning any of the upper division courses in Biology.

The major program must include at least 18 units of upper division courses in Biology and at least six units in either Physics or Chemistry. A grade of C must be maintained in all courses of the major, and, at the end of the senior year, each student must pass a comprehensive final examination.

21. General Zoölogy. An introduction to the broader principles of animal biology. Topics treated to include: protoplasm, the cell, metabolism, organ systems, adaptations, inheritance, etc. The lectures are supplemented by the laboratory study of certain animal forms. Two hours lecture, six hours laboratory. First semester. Four units.

22. General Zoölogy. A continuation of Biology 21. Two hours lecture, six hours laboratory. Second semester. Four units.

Biology 21 and 22 are prerequisite to all other courses of this department except Biology 23-24.

23-24. General Biology. An introductory course dealing with fundamental biological processes and principles. It is designed to meet the needs of those who do not plan to proceed to more advanced work in Biology. Laboratory work is designed to illustrate and supplement the lectures. Three hours lecture, three hours laboratory. Both semesters. Eight units.

101. Vertebrate Anatomy. A comparative study of the structure, organization, adaptation and classification of the vertebrate animals. In the laboratory the student dissects the dogfish, necturus and the rabbit. Two hours lecture, six hours laboratory. First semester. Four units.

102. Vertebrate Embryology. A study of the processes of cell division, gametogenesis, fertilization, cleavage, gastrulation, germ layer formation, organogenesis and the extra-embryonic membranes. In the laboratory the various phases of development as they proceed, particularly in amphibian, chick and mammal, are studied from gross material and in serial sections. Two hours lecture, six hours laboratory. Second semester. Four units.

103. Invertebrate Zoölogy. The anatomy, classification and life histories of the invertebrates. Two hours lecture, six hours laboratory. First semester. Four units.

104. History of Biology. The history of the development of Biology in its various branches to their present status, with biographical sketches of the leaders in each field. The outlook for the future. Two hours lecture. Second semester. Two units.

105. Taxonomy and Ecology. A course designed to acquaint the student with the principles of classification and ecology as evidenced by certain animal groups. Emphasis is laid upon field work. One hour lecture, three hours laboratory. First semester. Two units.

106. Taxonomy and Ecology. A continuation of Biology 105. One hour lecture, three hours laboratory. Second semester. Two units.

107. General Histology. A study of the cell and the cellular structure and histogenesis of the basic types of tissues. Prerequisites: General Zoölogy and Vertebrate Anatomy. Two hours lecture, six hours laboratory. Four units.

108. Research. An original investigation in some field of biology may be undertaken by properly qualified students in their senior year. Hours and credits to be arranged.

CHEMISTRY

Students who wish to make Chemistry their major subject must complete Chemistry 5 and 6, 9 and 10; Physics 1-4; Math. 1, 2 and 6 with at least a grade of C before beginning any of the upper divisions courses in Chemistry.

The major program must include 24 units of upper division courses in Chemistry. A grade of C must be maintained in all courses of the major, and, at the end of the senior year, each student must pass a comprehensive final examination.

Courses in Math. 7, 8 and 9 are strongly recommended for students choosing Chemistry as their major subject.

5. Inorganic Chemistry. A study of the fundamentals and properties of the elements and compounds with solution of problems. Includes a more thorough discussion and mastery of the laws and theories of Chemistry. Laboratory study and quiz accompany the lectures. Three hours lecture, six hours laboratory. First semester. Five units.

6. Inorganic Chemistry. A continuation of Chem. 5. The laboratory study includes a course in Qualitative Analysis consisting of a systematic analysis of cations and anions, together with quizzes and solutions of illustrative problems. Three hours lecture, six hours laboratory. Second semester. Five units.

Chemistry 5 and 6 are prerequisite to all other courses of this department except Chem. 11 and 12.

9. Quantitative Analysis. Introduction to the common methods of volumetric analysis. Problem discussion. One hour lecture, six hours laboratory. First semester. Three units.

10. Quantitative Analysis. Introduction to the common methods of gravimetric analysis. Problem discussion. One hour lecture, six hours laboratory. Second semester. Three units.

11. General Inorganic Chemistry. Discussion of elementary principles and properties of the more important elements with their compounds. Includes a systematic study of important theories. Laboratory and quiz to accompany the lectures. This course is designed to meet the needs of those who do not plan to proceed to more advanced work in Chemistry. Three hours lecture, three hours laboratory. First semester. Four units.

12. General Inorganic Chemistry. A continuation of Chem. 11. Three hours lecture, three hours laboratory. Second semester. Four units.

105. Industrial Chemistry. Various industrial plants in the vicinity using chemical engineering processes are visited, and reports are written concerning the processes. The inspection tours are made weekly, and one class hour, as arranged, is devoted to the discussion and criticism of the written report. Two units.

106 Inorganic Preparations. The student prepares a number of inorganic preparations under the individual direction of the instructor. Time and credit to be arranged.

130. Inorganic Chemistry. The Aliphatic Compounds. Introduction to organic chemistry. Discussion of the open chain carbon compounds, and an abbreviated introduction to the aromatic compounds of the same element. Three hours lecture, six hours laboratory. First semester. Five units.

131. Organic Chemistry. The Aromatic Compounds. A continuation of Chem. 130, with a comprehensive study of the aromatic compounds. Laboratory preparation of compounds, illustrating the principles. Intended for those primarily interested in chemistry. Two hours lecture, nine hours laboratory. Second semester. Five units.

135. Organic Chemistry. A brief discussion of the aromatic, heterocyclic and alicyclic compounds. Dyes, stains, medicinals, etc., will be discussed. Intended for premedical students. One hour lecture, no laboratory. Second semester One unit.

136. Organic Preparations. The student prepares a number of organic preparations under the individual direction of the instructor. Time and credit to be arranged.

145. Physiological Chemistry. ..A discussion of carbohydrates, proteins, lipoids, constituents of the blood and urine, and the principal tissues and secretions of the animal body. Enzymes and colloidal state are also studied. Intended for premedical students. One hour lecture, no laboratory. Second semester. One unit.

150. Physical Chemistry. A course intended for those who have sufficient training in Physics and Mathematics to enable them to solve the ordinary physical problems involving Calculus. The subject matter will be that of a general course. Three hours lecture, six hours laboratory. First semester. Five units.

151 Physical Chemistry. A continuation of Chem. 150, completing the discussion of the principles of physical chemistry. Intended for chemistry majors only. Two hours lecture, six hours laboratory. Second semester. Four units.

155. Physical Chemistry. An elementary course reviewing those principles having important applications in the medical sciences. Intended for premedical students. No laboratory. One hour lecture, no laboratory. Second semester. One unit.

170. Special study for Advanced Students.

(a) Inorganic Chemistry.
(b) Organic Chemistry.
(c) Physical Chemistry.

171. Seminar. Discussion of assigned topics in theoretical and applied chemistry. Required of all chemistry majors in their junior and senior years. One hour a week; two semesters. One unit.

180. Methods of Research—Introduction to the methods of research; the use of the literature of chemistry and the study of the methods of famous scientists. Time and credit to be arranged.

CIVIL ENGINEERING

1. Plane Surveying. Theory, use, and adjustment of tape, compass, level, and transit. Land and city surveying. Plotting field notes and computation of areas. Breed and Hosmer: Principles and Practice of Surveying, Vol. 1. Two hours lecture. First semester.
Prerequisite: Math. 17. **Two units.**

2. Surveying. Field work in the use of the chain, compass, level, and transit. Field notes and methods. To be taken concurrently with C. E. 1. Pence and Ketchum: Surveying Manual. Three hours laboratory. First semester.
Prerequisite: Math. 17. **One unit.**

3. Surveying. Continuation of C. E. 2. Pence and Ketchum: Surveying Manual. Three hours laboratory. Second semester.
Prerequisite: C. E. 2. **One unit.**

4. Summer School of Surveying. Practical field problems in highway, railway and topographic surveying. Complete survey notes and a map for a highway or railway project. Earthwork measurement and computation. Setting of construction stakes. Field work with a plane table. Survey of a small area with a transit and stadia and the plotting of field notes. Practice in contouring. Trigonometric and barometric leveling. Practice in stellar and solar observations. Day and evening classes. Prerequisite: C. E. 1, 2, and 3. **Four units.**

14. Curves and Earthwork. Simple, compound, reverse and transition curves. Measurement and computation of earthwork. The mass diagram and its use in the computation of "haul." Searles and Ives: Field Engineering, Vols. I & II. One hour lecture. First semester.
Prerequisite: C. E. 1, 2 & 3. **Two units.**

16. Advanced Surveying. Base line measurement and triangulation. Trigonometric, barometric, and precise leveling. Use of the plane table. Topographic and hydrographic surveying. Field astronomy. Breed and Hosmer: Principles and Practice of Surveying, Vol. II. One hour lecture. Second semester.
Prerequisite: C. E. 1. **One unit.**

100. Plane Surveying. Use and adjustment of tape, level, and transit. For Electrical and Mechanical Engineers. Pence and Ketchum: Surveying Manual. Three hours laboratory. Second semester. **One unit.**

118. Graphics. Principles and methods. Application to roof trusses under dead, snow and wind loads. Complete stresses for triangular and crescent trusses. Unsymmetrical loads for trusses. Bridge trusses. Ketchum: Steel Mill Buildings. Six hours laboratory. First semester. **Two units.**

119. Foundations and Substructures. Soil investigation and excavation methods. Cofferdams, open and pneumatic caissons. Use of timber, concrete, and sheet piling. Design of footings, bridge piers, and abutments. Hool and Kinne: Foundations, Abutments and Footings. Two hours lecture. First semester. **Two units.**

120. Structural Analysis. Determination of stresses in framed structures. Roof trusses. Stress analysis of horizontal and inclined cord bridge trusses for dead, live, impact and wind loads. Lateral trusses and portal bracing. Deflection of trusses, and secondary stresses. Statically indeterminate frames. Hool and Kinne: Stresses in Framed Structures. Two hours lecture. First semester. Two units.

121. Structural Analysis. Continuation of C. E. 120. Hool and Kinne: Stresses in Framed Structures. Three hours lecture. Second semester. Three units.

122. Structural Design. The design of steel and timber roof trusses, plate girders, highway and railway bridges. Hool and Kinne: Steel and Timber Structures. Two hours lecture. First semester. Two units.

123. Structural design. The design and detailing of a roof truss, plate girder, and a railway or highway bridge. Design and detailing of reinforced concrete structures. To be taken concurrently with C. E. 122. Hool and Kinne: Steel and Timber Structures. Carnegie's Pocket Companion, or Steel Construction by A. I. S. C. Nine hours laboratory. First semester. Three units.

124. Structural Design. Continuation of C. E. 123. Hool and Kinne: Steel and Timber Structures. Carnegie's Pocket Companion, or Steel Construction by A. I. S. C. Nine hours laboratory. Second semester. Three units.

125. Structural Design. The design and detailing of wood, steel, and concrete structures suitable for the Electrical and Mechanical Engineer. Bishop: Structural Drafting and Design. Three hours laboratory. First semester. One unit.

130. Materials of Construction. The manufacture and properties of the more common materials of engineering construction. Cementing materials, concrete and stone, clay products, timber and metals. Moore: Materials of Construction. Two hours lecture. First semester. Two units.

131. Reinforced Concrete. Principles and practice of reinforced concrete design as applied to beams, girders, floor slabs and columns. Hool: Reinforced Concrete Construction, Vol. I. Three hours lecture. First semester. Three units.

132. Reinforced Concrete. Principles and practice of reinforced concrete building design and construction. Hool: Reinforced Concrete Construction, Vol.II. Two hours lecture. Second semester. Two units.

140. Sewerage. Collection, purification and disposal of sewage. The design and construction of sewers and sewage treatment works. Babbitt: Sewerage and Sewage Treatment. Three hours lecture. First semester. Three units.

141. Water Supply. A study of the source, the quality and quantity of water necessary for a municipal supply. Water supply works for the collection, purification and distribution of water. Babbitt and Doland: Water Supply Engineering. Three hours lecture. Second semester. Three units.

142. Sanitary Lab. Laboratory practice in the common tests of sanitary and industrial wastes and polluted and contaminated waters. Standard Methods for the Examination of Water and Sewage—American Public Health Association. Theroux, Eldridge and Mullman: Laboratory Manual for Chemical and Bacterial Analysis of Water and Sewage. Three hours laboratory. One unit.

150. Highway Engineering. Design, construction and maintenance of roads and pavements. Alignment, grade and drainage of roads. Gravel, stone, concrete, block and sheet pavement types. Bateman: Highway Engineering. Two hours lecture. Second semester. Two units.

151. Highway Tests. Highway materials testing. Cement, sand, gravel, rock, and bituminous materials. Bauer: Highway Materials. Bulletin No. 1216, U. S. Dept. of Agriculture, Tentative Standard Methods of Sampling and Testing Highway Materials. Six hours laboratory. Second semester. Two units.

152. Highway Administration and Finance. A study of the management and economic phases of highway engineering. Organization and administration of highway department staffs. Highway finance, federal aid, bonds, and special assessments. Agg and Brindley: Highway Administration and Finance. Two hours lecture. Second semester. Two units.

153. Municipal Engineering. Problems of the municipal engineer. The city plan. Streets. Railroads. Parks. Recreation facilities. Public buildings. Civic centers. Zoning. The economic value of a city plan. Lewis: The Planning of the Modern City. Two hours lecture. Second semester. Two units.

160. Railway Construction. Methods and practice of railway construction and maintenance. Standard railway structures, trestles, culverts, minor bridges, tunnels, ballast, rails and fastenings, terminals and yards. Webb: Railroad Construction. Three hours lecture. Second semester. Three units.

170. Tunneling. Transportation, water and mine tunnels. Methods of construction under various soil conditions. Tunnel machinery, drilling, blasting and mucking. Tunnel lining and ventilation. Burton and Davies: Modern Tunneling. Two hours lecture. Second semester. Two units.

180. Thesis. Original investigation of some engineering problem. Two units.

DOGMATIC THEOLOGY

Prerequisite for the following courses:

A Master's Degree or its equivalent in Scholastic Philosophy, facility in the written and spoken use of the Latin language, and a reading knowledge of Greek are required.

SECTION A—THE TRI-UNE GOD

201. The Existence, Essence and Attributes of God. Knowable and scientifically demonstrable from creatures. Supernatural knowledge of God by faith, by intuitive vision. God's knowledge and will. Providence of God. Three hours. One semester. Two units.

202. Knowledge of God Through Creatures. A critical study of the validity of our philosophical demonstrations concerning the existence and attributes of God, to accompany 201. One hour. One semester. One unit.

203. The Trinity. The existence and essence of this mystery. Existence knowable only through revelation. Clearly revealed in the New Testament, obscurely in the Old Testament. The testimony of the ante-Nicene Fathers. Constant Tradition of the Church. The Divine Persons. Procession of the Son and of the Holy Ghost. Real relations in God. Their distinction from the divine essence. Three hours. One semester. Two units.

204. Essence, Personality and Relations. A study of the metaphysical implications of the Christian doctrine of the Trinity, to accompany 203. One hour. One semester. One unit.

205. Seminar. Hours and units to be assigned.

SECTION B—GOD IN HIS RELATION TO MAN

211. God as the Author of Nature. God created the world in time, freely. Mosaic Cosmogony. Creation of man. Age of man. Creation of angels. Their nature, number, orders. Angels, the guardians of men. Three hours. One semester Two units.

212. God as the Author of the Supernatural Order. Man created in the state of Original Justice. Nature and elements of this state. Lost through Original Sin. Nature and transmissions of this sin. Its consequences. Elevation of the angels to the supernatural order. Fall and punishment of many. Three hours. One semester. Two units.

213a, b. Nature and Supernature. A metaphysical investigation of the problems of nature and supernature as mirrored in theological thought through the centuries, to accompany 211 and 212. One hour. Two semesters. Two units.

214 Seminar. Hours and units to be assigned.

SECTION C—THE INCARNATION

221. Dogmatic Christology. The Person assuming. The nature assumed. Hypostatic union. Consectaria: Christ as man the natural Son of God; knowledge, sanctity, impeccability, freedom and power of Christ as man. Worship due the human nature of Christ. Two hours. One semester. One unit.

222. Historical Christology. Apostolic Christology. Patristic, particularly ante-Nicene Christology. The great councils, the heresies and schisms. St. Thomas and the Schools. Lutheran modifications. Kenotic theories. Modern rationalism. One hour. One semester. One unit.

223. Soteriology. Necessity, fitness, final cause of the Incarnation. Mediation, satisfaction, merit of Christ. Christ, Priest, Prophet, King. Two hours. Twelve weeks. One unit.

224. Mariology and the Veneration of Saints. Mary the Mother of God! Her perpetual virginity; Immaculate Conception; mediation. Cultus due her as Mother of God. Veneration of the saints, of their relics and sacred images. Invocation of the saints. Four hours. Six weeks. One unit.

225. Nature and Personality. A study of the metaphysical implications of the Christian doctrine of the Incarnation, to accompany 221. One hour. One semester. One unit.

226. Vicarious Satisfaction and Merit. A study of the ethical and metaphysical implications of the Christian doctrine of redemption as exemplified in Christian thought through the centuries, to accompany 223. Two hours. Twelve weeks. One unit.

227. Seminar. Hours and units to be assigned.

SECTION D—GRACE AND THE INFUSED VIRTUES

231. Actual Grace. Nature and kinds of actual grace. Necessity of grace. Grace and free will. Difficulty of harmonizing efficacious grace with the freedom of the will. The Molinist and other explanations. Economy of grace. Two hours. One semester. Two units.

232. Habitual Grace and Merit. Justification. Catholic and Protestant explanations of its nature. Sanctifying grace. Its nature and effects. Dispositions necessary for justification. Nature of supernatural merit. Requisite conditions. The objects of merit. Two hours. Twelve weeks. One unit.

233. The Infused Virtues. Faith, hope, charity. Their existence, nature, cause, increase, loss. Formal motive and material object of each. The infused moral virtues. Their existence and nature. Four hours. Six weeks. One unit.

234. The Harmony of Grace and Free Will. The metaphysical and psychological implications of the Christian doctrine on actual grace, to accompany 231. Two hours. One semester. One unit.

235. Substance and Accident in Nature and Supernature. The metaphysical and psychological implications of the Christian doctrine on sanctifying grace and the infused virtues, to accompany 232. Two hours. Twelve weeks. One unit.

236. Seminar. Hours and units to be assigned.

SECTION E—THE SACRAMENTS

241. General Treatise on the Sacraments. The Sacraments as means of salvation. Existence, author, number, nature, constitution, effects, minister and subject of the Sacraments. Two hours. Twelve weeks. One unit.

242. Baptism. Nature, necessity, effects. Ordinary and extraordinary minister of baptism. Baptism of infants. Four hours. Six weeks. One unit.

243. The Eucharist. The Real Presence; transubstantiation; manner of this presence. As a Sacrament. Essence, effects, necessity, subject and minister. As a Sacrifice. Existence, essence, efficacy of the Sacrifice of the Mass. Three hours. One semester. Two units.

244. Confirmation and Penance. The institution of Confirmation by Christ; its nature, minister, subject. Penance as a virtue. Institution of the Sacrament by Christ. Its necessity. Requisites on the part of the penitent, contrition, confession, satisfaction. The absolution of the priest, a judicial act. Extent and effects of the remissive power of the Sacrament. Indulgences. Three hours. One semester. Two units.

245. Extreme Unction, Orders, Matrimony. Institution, nature, minister, subject and effect of these sacraments. Unity and indissolubility of matrimony. Power of the Church to constitute impedient and diriment impediments to the sacrament of matrimony. Three hours. One semester. Two units.

246. History of the Sacraments. A study of the history of the Sacramental system, to accompany 241. Two hours. Twelve weeks. One unit.

247. Transubstantiation and Multilocation. A study of the metaphysical implications of the Christian doctrine of the Eucharist, to accompany 243. One hour. One semester. One unit.

248. History of Confirmation and Penance. An historical study of the Christian doctrine concerning these sacraments, to accompany 244. One hour. One semester. One unit.

249. History of Extreme Unction, Orders, Matrimony. An historical study of the Christian doctrine concerning these three sacraments, to accompany 245. One hour. One semester. One unit.

250. Marriage and the Family. Origin of the marital bond. A brief history of marriage and the family. The factors which make for family integration. Forces at work to nullify these factors. Christian ideals of marriage and family life. Three hours. One semester. Three units.

251. Seminar. Hours and units to be assigned.

ECCLESIASTICAL HISTORY

280. Foundations of Christian Civilization. A critical investigation of the factors at work in the upbuilding of Christian civilization during the first six centuries. Four hours. One semester. Four units.

283. Medieval Monasticism. The origin, diffusion and development of monasticism. Two hours. One semester. Two units.

284. The Renaissance. Revival of classicism. Culture and social conditions from 1453 to 1537. The Popes of the Renaissance from Nicholas V to Clement VII and their influence upon art, culture and religion. The Renaissance in the North. Two hours. One semester. Two units.

285. The Religious Revolt of the Sixteenth Century. Causes and origins. Religious instruction of the faithful on the eve of the revolt. Lutheranism. Calvinism. Anglicanism. The Catholic revival. Two hours. One semester. Two units.

286. The Church in the Seventeenth and Eighteenth Centuries. Intellectual and religious movements. The French Revolution. The Catholic missions. Two hours. One semester. Two units.

287. The Church in the Nineteenth Century. Napoleon and the Papacy. The age of Metternich. The pontificates of Pius IX and Leo XIII. Religious orders and congregations. Catholic missions. Two hours. One semester. Two units.

288. Social History. Ancient, medieval and modern social thought and movements. Social value of Mosaic Laws and Christian practice. A review of modern reforms. The Church in modern social problems. Three hours. One semester. Three units.

289. Seminar. Hours and units to be assigned.

ECONOMICS

Students who wish to make Economics their major subject must have completed Economics 1A and 1B of the lower division with a grade of at least C.

The major program must include 22 units of upper division work in economics including Economics 100, 110, 114 and 116. Besides the units in economics the student must include six units in political science. A grade of C must be maintained in all courses of the major, and, at the end of the senior year, each student must be ready to pass a comprehensive final examination, written or oral.

1A-1B. Principles of Economics. Required for all upper division work in Economics and in the College of Business Administration. The student is made acquainted with the general principles, terminology and methods of approach essential to an understanding of economic processes and problems. The work of the course centers around the four dominant phases of economics: consumption, production, exchange and distribution. Three hours lecture. Two semesters. Six units.

10-A. Principles of Accounting. A study of the basic principles underlying modern accounting processes with particular emphasis upon their application to the technique of classifying and recording actual business transactions. Three hours lecture, three hours laboratory. First semester.

Prerequisite: Sophomore standing. Four units.

10-B. Principles of Accounting. A continuance of Economics 10-A. Special attention is given to the problems peculiar to the sole proprietorship, partnership and corporation. Elementary ideas on the problem of asset valuation are also discussed. Three hours lecture, three hours laboratory. Second semester.

Prerequisite: Economics 10-A.

30A-B. Survey of Accounting. This course is designed to meet the needs of students whose major interest is the practice of law. To that end the phases of accounting treated are those which involve a consideration of partnerships, corporations, ventures, syndicates, estates, trusts, and the problems involving asset valuation in public utility rate making cases. Two hours lecture. Both semesters. Four units.

Economics 1A-1B and Junior standing are prerequisite for all the following Economics courses:

100. Principles of Statistical Method. An application of basic statistical methods to masses of quantitative data. Attention is given particularly to the use of averages, measures of dispersion, index

numbers, correlation and time series analysis. Three hours lecture, three hours laboratory. Four units.

Prerequisite: Mathematics 1.

101. Advanced Statistics. Application of the methods of basic least squares. Multiple, partial, and curvilinear correlation. Special problems in correlation of certain types of time series. Probability, sampling, and frequency distributions. The fitting of Pearsonian and other types of curves. Tests of goodness of fit. Four units.

Prerequisite: Economics 100.

110. History of Economic Doctrines. A survey of economic theories and doctrines from Plato to Alfred Marshall. The various types of theory are compared and contrasted and their relationship to the general economic and social history of the period is indicated. Haney: History of Economic Thought. Three hours lecture. First semester.

Three units.

114. Advanced Economic Theory. A study of the more advanced theories of economics. Three hours. One semester. Three units.

116. Economic History of America. A study of the economic history of the United States, with special reference to problems arising from the factory system and large scale production. Three hours lecture. Three units.

120. Public Finance. A history of public finance and taxation in the United States from colonial times to the present, emphasizing the economic merits of the different means of collecting public revenue. Three hours lecture. First semester. Three units.

122. Principles of Money and Banking. Approximately one third of the course is devoted to a study of money; its history, kinds of, functions and systems of in the United States. The remainder of the course is devoted to a general consideration of banking with emphasis upon the National Banking System and the Federal Reserve System. Three hours lecture. Second semester.

Three units

126. Business Cycles. A study of the history of periods of business depression and prosperity; phenomena attending such fluctuations; and a consideration of various means suggested for the attainment of a greater degree of stability in business. Three hours lecture. One semester.

Prerequisite: Econ. 100. Three units.

127. Problems in Public Finance. A continuation of Economics 120. Attention will be given to current problems in fiscal matters. Three hours lecture.

Prerequisite: Consent of instructor. Three units.

150. Labor Economics. A study of the development of the labor situation in the United States, the forms, aims and methods of action of present day labor organizations, and legislation in labor matters. Three hours lecture. Second semester. Three units.

160. Business Organization. A study of the legal and economic aspects of the organic forms of business enterprise. The tendency toward combination and monopoly is examined both from the

point of view of the business unit and that of public policy. Three hours lecture. Three units.

165. Business Administration. Attention is given to functionalization, departmentalization, and other general principles of business management. Detailed study is made of the specific problems encountered by the business executive in the efficient administration of such departments as production, sales, finance, accounting control, personnel, and research. Three hours lecture. Three units.

180. Foreign Trade. The principles and practices of foreign trade; present problems in international financial relations, and their influence upon the foreign trade of the United States. Three hours lecture. Second semester. Three units.

181. Principles of Marketing. The nature and importance of marketing; producer and consumer clarifications; extent of and forces behind markets; marketing functions; cooperative marketing; methods and channels of distribution; the transportation problems connected with marketing; market price; government authority; trend of marketing methods and policies at present. Three hours lecture. First semester. Three units.

Business Courses

The following courses are open only to students registered in the College of Business Administration. Economics 1A-1B and Junior standing are prerequisite for all the following courses:

121. Corporation Finance. The first six weeks of the semester are devoted to the survey of the forms of business organization; the individual proprietorship, the partnership, joint stock company and the corporation. The remainder of the semester is occupied with a detailed study of the corporation; methods and instruments of corporate financing primarily from the viewpoint of the corporation and its stockholders. Three hours lecture. First semester.

Prerequisite: Senior Standing. Three units.

123. Investments. The relative merits of the various types of investments from the point of view of the individual or private investor. Methods of analyzing and determining the investment value of corporate and other securities. Three hours lecture. Second semester.

Prerequisite: Econ. 121. Three units.

124. Advanced Money and Banking. The first part of the course includes a detailed analysis of the actual operation of the Federal Reserve System and a comparative survey of the most important foreign systems. The latter part of the semester is devoted to an advanced study of monetary and banking theory. Readings and lectures. Two hours. Second semester.

Prerequisite: Consent of instructor. Two units.

130-A. Accounting Problems. A study of the methods of preparing operating financial statements for various types of enterprises. The problems peculiar to consignments, ventures, corporations and the valuation of current assets are given special attention. Illustrative problems solved and discussed. Three hours lecture. Three units.

130-B. Accounting Problems. The following matters are taken up: Problems of fixed asset valuation; investments; liabilities;

funds and reserves; correction of statements and books; profit and loss analysis. Three hours lecture.

Prerequisite: Economics 130-A. Three units.

131-A. Accounting Problems. The course covers the problems of partnerships, insolvent concerns, agencies, and branches. Three hours lecture.

Prerequisite: Economics 130-B. Three units.

131-B. Accounting Problems. A study is made of the problems of corporate consolidations, foreign exchange transactions, estate accounting and the fundamental problems of accounting in banks and governmental units. Three hours lecture.

Prerequisite: Economics 131-A. Three units.

133. Industrial Accounting. A study of the fundamental principles of allocating cost and overhead in modern industry. Three hours lecture. Second semester.

Prerequisite: Econ. 10-B. Three units.

135. Analysis of Financial Statements. A course covering the methods of interpreting, for the use of management, the data presented in the typical financial reports prepared from accounting records. Readings and lectures. Three hours. First semester.

Prerequisite: Econ. 130-B. Three units.

137. Accounting Theory. A seminar course in which attention is given to present day trends in accounting theory as evidenced by current writings and as drawn from published reports prepared by Certified Public Accountants.

Prerequisite: Consent of instructor. Units to be arranged.

139. Federal Income Taxes. A study of the practical application of the principles underlying the current income tax laws and the regulations issued thereunder. Problems are discussed and actual returns prepared for both individuals and corporations. Three hours lecture. Second semester.

Prerequisite: Consent of instructor. Three units.

182. Advanced Marketing. An amplification of the work covered in Elementary Marketing. Special research upon wholesale and retail merchandising problems. Analysis of present trends and probable changes in marketing methods. Readings and lectures. Two hours. First semester.

Prerequisite: Consent of instructor. Two units.

EDUCATION

A, B. Prescribed Physical Training for Freshmen. All Freshmen who are in no way physically defective are required to meet twice a week for physical training. Those who do regular work in baseball, basketball, boxing, football, swimming or tennis are exempt from the physical training classes. Two hours weekly throughout the year. One unit.

6. A General Course in the History of Education. Primitive and oriental. Greek. Roman. Early Christian and mediaeval. Monastic schools and the development of Scholasticism. The founding of universities in the various parts of Europe. Two hours. One semester. Two units.

7. Modern Education. Continuation of Educ. 6. The Renaissance in education. The Reformation and education. The Jesuit system of education. The great educational reformers. The development of the national school systems in Europe and the United States. Two hours. One semester. Two units.

8. Teacher's Courses in High School English. The rhetoric to be taught in high school. Its method of presentation and its application to written composition. Graduation and development of written composition. Methods of correction. Standards of evaluation. The literature to be studied. The method for its presentation and study. Oral English. Two hours. One semester. Two units.

ELECTRICAL ENGINEERING

10. Electric and Magnetic Circuits. This is an elementary course to introduce fundamental laws and principles to beginning students as early as possible. It is largely a problem course to familiarize the student with the laws and principles by drill in definite examples. Timbie and Bush: Principles of Electrical Engineering. Three hours combined lecture and laboratory. First semester.

Prerequisite: Sophomore standing. One unit.

11. Electric and Magnetic Circuits. A continuation of E. E. 10. Three hours combined lecture and laboratory. Second semester.

Prerequisite: E.E. 10. One unit.

101. Electrical Machinery. A study of direct-current machines and apparatus, with special emphasis on the application of the fundamental principles of the electric and magnetic circuit. Mathematical and graphical development of the principles involved in the theory and operation of direct-current machinery are given special attention. Problem work is carried on throughout the course. Kloeffler, Brenneman and Kerchner: Direct Current Machinery. Three hours lecture. First semester. Three units.

Prerequisite: E.E. 11.

102. Principles of Alternating Currents. A study of fundamentals involved in alternating current circuits, as applied to single-phase and polyphase operation. Use of the complex notation, analysis of complex waves, and resonant conditions are included. Magnusson: Alternating Currents. Three hours lecture. Second semester.

Prerequisite: E.E. 101. Three units.

103. Theory of Alternating Current Machinery. A study of the theory and operation of various types of alternating current machinery—single-phase and polyphase transformers, induction motors, generators, synchronus motors and converters, rectifiers, commercial wave forms, protective appliances, etc. Application of the theory to design and operation is emphasized throughout. The problem work is a prominent part of the course. Magnusson: Alternating Currents and references. Three hours lecture. First semester. Three units.

Prerequisite: E.E. 102.

104. Theory of Alternating Current Machinery. A continuation of E.E. 103. Three units.

Prerequisite: E.E. 103.

105. Telephony. The magneto-telephone. The microphone. Carbon transmitters. Induction coils. Call methods. Series and parallel circuits. Subscribers' equipment. Line disturbances. Common battery systems. Exchange equipment. Party lines. Automatic systems. Combined telegraphy and telephony. Wireless telegraphy. Generation of electrical waves. Transmitting and receiving apparatus. Electrical Engineer's Handbook. One hour lecture. First semester.

Prerequisite: Physics 12 and E. E. 101. **One unit.**

106. Design of Direct Current Machinery. Electrical and mechanical theory applied to the design of D. C. machinery. Switches, heaters, controllers, etc. Complete calculations and working drawings for a dynamo or motor, to fulfill given specifications. Still: Electric Machinery Design. Six hours drawing. First semester.

Prerequisite: E. E. 101. **Two units.**

107. Power Plant Design. Design of a complete plant to furnish light and power for a city of given size. Consideration of the elements: illumination, charges, operating expenses, income, organization and administration, reports, specifications, contracts and statistics. Morse: Power Plant Engineering and Design. Six hours drawing. Second semester.

Prerequisite: E. E. 103-106. **Two units.**

108. Electrical Design. Design of alternators, transformers, induction motors and other alternating current apparatus. Thorough investigation and complete design of some unit assigned. Still: Elements of Electrical Design. Six hours drawing. Second semester. **Two units.**

109. Direct Current Laboratory. Experimental study of direct current circuits, instruments, generators, motors, methods of testing, commercial tests, etc. Laboratory notes and references. Three hours laboratory. First semester. To accompany E.E. 101. One unit.

110. Alternating Current Laboratory. Beginning laboratory course in the study of alternating currents, measurements, meters, circuits, wave form. Laboratory notes and references. Three hours laboratory. Second semester. To accompany E.E. 102. One unit.

111. Alternating Current Laboratory. Experimental study of the properties and performance of transformers, induction motors, generators, synchronous converters, synchronous motors, mercury arc rectifiers, relays, vacuum tubes, artificial transmission lines, high voltage testing, oscillographs, etc. Laboratory notes and references. Three hours laboratory. First semester. To accompany E.E. 103. One unit.

112. Alternating Current laboratory. A continuation of E.E. 111. Three hours laboratory. Second semester. To accompany E.E. 104. One unit.

114. Elements of Electrical Engineering. A short course in direct current and alternating current circuits and machinery for Civil Engineering students. Gray and Wallace: Principles and Practice of Electrical Engineering. One hour lecture, three hours laboratory. Second semester. **Two units.**

115. Transmission and Distribution. A study of the fundamentals of high voltage long distance transmission of power. Approximate methods of determining line performance. Rigorous methods of determining line performance by means of hyperbolic functions and also by their equivalent infinite series. Woodruff: Electric Power Transmission and Distribution. Two hours lecture. Second semesterr. Two units.

116. Industrial Electron Tube Applications. A lecture course designed to familiarize Electrical Engineering students with industrial electron tube applications. The various types of multi-element thermionic tubes, light-sensitive tubes, amplifiers, rectifiers, cathode-ray tubes, etc., are studied. Henney: Electron Tubes in Industry. Two hours lecture. Second semester. Two units.

170. Thesis. Original investigation of some Engineering problem and the writing of an acceptable thesis. Two units.

ENGLISH

Students who wish to make English their major subject must have completed all the prescribed English courses of the lower division with at least a grade of C.

The major program must include 24 units of upper division English courses. A grade of C must be maintained in all courses of the major, and, at the end of the senior year, each student must pass a comprehensive final examination.

1. Freshman Rhetoric. A study of the principles of literary art in all its forms, with special attention to the mechanics of writing. Practice writing based on assigned reading. Three hours. First semester. Three units.

2. Introduction to the Study of Poetry. Its nature and kinds, especially the epic, the lyric and the drama. Practice in verse composition in imitation of authors read. Three hours. Second semester. Three units.

3. Early English Literature. A study of the beginnings of English literature, including the Saxon, Norman and Early English periods. Lectures and recitations. Three hours. First semester. Three units.

4. Elizabethan Literature. A study of the more prominent writers during the Tudor and Stuart reigns, with special emphasis on the Elizabethan period. Lectures and recitations. Three hours. Second semester. Three units.

5-6. Argumentation and Oratory. Invention, arrangement and development of thought; a course presenting the principles of reasoning and persuasion. Critical analysis discussion and oral presentation of specimens of oratorical composition, classical and modern. Three hours. Two semesters. Six units.

7. Georgian Literature. English Literature from the time of Queen Anne to that of Queen Victoria. Lectures and recitations. Three hours. First semester. Three units.

8. Victorian and Modern English Literature. A study of the leading writers from the reign of Queen Victoria down to the pres-

ent, including contemporary American writers. Lectures and recitations. Three hours. Second semester. Three units.

Courses 11-14 are designed for students in the College of Engineering.

11. Composition and Rhetoric. Lectures and recitations. Exposition; the unity and coherence of the whole composition, with a thorough review of the paragraph, the sentence and the right choice of words. The nature of Argumentation, including the invention and arrangement of material. Appropriate readings. Three hours. First semester. Three units.

12. Composition and Rhetoric. Continuation of English 11. The characteristics of Description and Narration. Expository description: description in narrative pieces. Simple Narrative. The Story. Illustrative readings. Three hours. Second semester. Three units.

13. Readings in English Literature. Selected readings in the Early English and Elizabethan periods, with adequate biographical and critical study of the principal authors. Three hours. First semester.

Prerequisite: Eng. 12. Three units.

14. Readings in English Literature. Continuation of English 13. Selected readings in the Georgian, Victorian and Modern English periods, including contemporary English and American writers. Three hours. Second semester. Three units.

21. Journalism. News writing and reporting. A study of news values and sources of news; structure and style in news stories; feature writing. Lectures and discussions. Practice and laboratory work. Two hours. Second semester. Two units.

101. The Essay. An advanced course in the study of the essay. Its nature and kinds. Forerunners of the essay. The essay in English with readings in representative English and American essayists down to the present. Three hours. One semester. Three units.

102. Fiction. The nature and kinds of fiction, illustrated by ancient and modern forms in verse and prose. Plot, setting, characters. Special emphasis on modern prose forms. The novel and the short story with appropriate readings. Three hours. One semester. Three units.

103. Shakespeare. A study of the historical background and the influence of Shakespeare in the development of English dramatic literature. Intensive study of at least four plays with further plays assigned for more rapid reading. (Required of all English Majors.) Three hours. One semester. Three units.

104. Milton. His background and spirit. Contrast with Dante, Virgil and Homer. Selections from his prose. His principal minor poems. Comus. Paradise Lost. Three hours. One semester. Three units.

105. Chaucer. Chaucer's medieval background. Dawning influence of the Renaissance. Relation to later English literature.

Diction. Versification. Literary characteristics. Readings from Canterbury Tales and from earlier and later minor poems. Three hours. One semester. Three units.

106. Nineteenth Century Poetry. An advanced course based on the study and interpretations of selections from the principal English poets of the nineteenth century. Three hours. One semester. Three units.

107. Nineteenth Century Prose. An intensive study of a select number of English nineteenth century writers of non-fictional prose. Their subject matter, mental traits and qualities of style. Three hours. One semester. Three units.

108. American Literature. Its historical development briefly reviewed. Points of comparison and contrast with other literatures. Readings from the principal American poets and prose writers. Three hours. One semester. Three units.

109. Browning. Dramatic lyrics; dramatic romances; the dramatic monologue; Pippa Passes; The Ring and the Book. Three hours lecture. Three units.

110. Shakespeare. An extensive reading course in the plays of Shakespeare. A rapid survey of the poet's dramatic work. (For students not majoring in English.) Lectures and assigned readings. Three units.

111. Tennyson. The Lady of Shallot and other poems; English Idyls and other poems; In Memoriam; The Princess; The Idylls of the King. Three hours lecture. Three units.

112. Dryden to Wordsworth. The age of the Classicists; principal writers of the Restoration and the eighteenth century Three hours lecture. Three units.

FRENCH

1. Elementary French. In this course the student is carefully drilled in elementary grammar up to the irregular verbs, attention also being given to acquiring a vocabulary of the more common words. Three hours. First semester. Three units.

2. Elementary French. A continuation of French 1. Special attention is given to the more important irregular verbs, the memorizing of words, and translation of French into English and vice versa. Three hours. Second semester. Three units.

3. Intermediate French. A thorough review of grammar and syntax. The object of this course is to acquaint the student with the general vocabulary and enable him to read the more simple French writers. Three hours. First semester.

Prerequisite: French 2. Three units.

4. Intermediate French. This course continues the work begun in French 3. Regular exercises are given in written work, and copious reading is made from the standard works in order to fit the student for professional reading. Three hours. Second semester. Three units.

5-6. Advanced Composition and Reading. Compositions and sight reading; oral and written reports in French; conversation; survey of French literature. This course is conducted almost entirely in French. Three hours. Both semesters. Six units.

FUNDAMENTAL THEOLOGY

Prerequisite for the following courses:

A Master's Degree or its equivalent in Scholastic Philosophy, facility in the written and spoken use of the Latin language, and a reading knowledge of Greek are required.

201. Reason and Revelation. The possibility, usefulness, necessity and criteria of divine revelation. The relation between reason and revelation. Genuinity of the Gospels. Inspiration, inerrancy, interpretation and canonicity of the Sacred Scriptures. Four hours. One semester. Three units.

202. Faith. Its nature, certainty, truth, necessity, formal motive. Four hours. Four weeks. One unit.

203. Christ the Divine Legate. The Christ of history. His claim as a divine legate. This claim proved by His miracles and prophecies, by the prophecies of the Old Testament, the marvellous propagation of His doctrines. Internal criteria of the divinity of His doctrine. Four hours. One semester. Three units.

211. The Constitution of the Church. Its hierarchical constitution proved from the Gospels, from the other books of the New Testament and from the early Fathers of the Church. Views of recent non-Catholic theological schools. Characteristics of the Church. The four notes—apostolicity, unity, catholicity, sanctity. Their relative value and absolute value. Four hours. One semester. Three units.

212. Government of the Church. The bishops, the successors of the Apostles under the headship of the Roman Pontiff, the successor of St. Peter. Supreme power of the Roman Pontiff. Infallibility of the Church; of the Roman Pontiff. Extent of this infallibility. Four hours. Twelve weeks. Two units.

213. Tradition, A Source of Revelation. Its instruments, sources, criteria. Authority of the Fathers, of Theologians. Development of dogma. Four hours. Six weeks. One unit.

292. Origins of Religion. Comparative history of religion as a moral science; definition and elements of religion; fundamental principles of mythology; modern theories of the origin of religion. Three hours. One semester. Three units.

293. Church and State. A critical study of the relations between Church and State from the earliest to present-day times. The Church and International Law. Concordats between Church and States. Three hours. One semester. Three units.

294. Seminar. Hours and units to be assigned.

GENERAL ENGINEERING

1. Mechanical Drawing. Freehand lettering. Use of instruments. Plane problems. Freehand sketching. Orthographic. isometric and cabinet projections. Tracing and blue printing. French: Engineering Drawing. Six hours drawing. First semester. Two units.

2. Descriptive Geometry. Orthographic projection of points, lines, planes, warped surfaces, etc., in the four angles of projection.

Intersections. Tangents to curves and surfaces. Developments. Practical problems in stereotomy, surveying, architecture, belting, layouts, etc. Smith: Practical Descriptive Geometry. Six hours lecture and drawing. Second semester.
Prerequisite: G. E. 1. Two units.

7. Technical Mechanics—Statics. Kinematics. This course includes the solution of force systems acting on bodies that are in equilibrium. Moments. Friction. Motion of a particle. Motion of rigid bodies. It must accompany Physics 12 and 13, and Math. 19. Seely and Ensign: Analytical Mechanics for Engineers. Four hours lecture. First semester. Four units.

Prerequisite: Math. 18.

8. Technical Mechanics—Kinetics. A continuation of G.E. 7. Text as in G.E. 7. This course must accompany Math. 20. Four hours lecture. second semester. Four units.

9. Review of Engineering Industries. Lectures and assigned reading on Engineering studies and work. This course is designed to teach the student how to study and to enable him to make a rational choice of a course of study. One hour lecture. First semester. One unit.

9a. Review of Engineering Industries. Continuation of G. E. 9. One hour lecture. Second semester. One unit.

109. Mechanics of Materials. Resistance to load and deformation of members in structures and machines. Tension. Compression. Shear. Torsion. Flexure. Column action. Combined stresses. Principal stresses. Failure theories. Impact, energy and repeated loads. Continuous, non-homogeneous and curved beams. Unsymmetrical bending. Seeley: Resistance of Materials. Five hours lecture. First semester. Five units.

Prerequisite: Math. 15 and G.E. 8.

110. Materials Testing Laboratory. Testing of engineering materials to determine their properties and conformity with specifications, in accordance with the standards of the American Society for Testing Materials. Three hours laboratory. First semester. Santa Clara Manual for Testing Materials. Selected ASTM Standards for Students. Gilkey, Bergman and Thoman: Notes and Problems for the Course in Materials Testing Laboratory. To accompany G.E. 109. One unit.

121. Hydraulics. Pressure, flow and energy of fluids. Orifices. Weirs. Open and closed conduits. Hydraulic motors. Pumps. Harris: Hydraulics. Four hours lecture. Second semester. Four units.

122. Hydraulics Laboratory. Use and calibration of instruments. Measurement of fluid phenomena. Weirs. Venturi meters. Orifice meters. Pitot tubes. Flow in pipes and channels. Hydraulic motors and pumps. Santa Clara Manual for Hydraulics Laboratory. Three hours. Second semester. One unit.

127. Seminar. Reading and reports from current Engineering literature. One hour. Second semester. One unit.

133. Management Engineering. The field of factory management. Management principles. Organization and control. Financial

control. Planning. Departments of an industrial concern. Stores and stock. Purchasing. Time and motion study. Wage systems. Inspection. Cost accounting. Personnel work. Factory layout and design. Engineering economics. Standards of measurement. Evolution of modern industry. The financial structure. Marketing. Prices. Labor relations. Profit. Interest. Rent. Public control of business. Socialism. Taxation. Efficiency of the economic machine. The problem of investment. Analysis of first cost. Valuation. Estimating. Engineering reports. Specification Writing. Three hours lecture. First semester.
gineer during construction. Terms of payment. Diemer: Factory Organization and Administration. Bowers and Rowntree: Economics for Engineers. Fish: Engineering Economics. Kirby: Elements of Specification writing. Three hours lecture. First semester.
Three units.

134. Management Engineering. Continuation of G. E. 133. Two hours lecture. Second semester. Two units.

GEOLOGY

1. General Geology. A popular course of visual instruction to give the student an intelligent appreciation of the physiographic relief features of the earth and an insight into the probable conditions of the origin and formation of various geologic phenomena. Lectures, stereopticon projections, and supervised discussion. Two hours. One semester. Two units.

2. Historical Geology. Visual instruction regarding theories of earth formation. Paleontology. Special study of fossils with access to large museum. Lectures on geologic aspects of evolution. Two hours. One semester. Two units.

33. Engineering Geology. A course in dynamical, structural and historical Geology. Particular attention is paid to structural Geology and the influences of constructive and engineering conditions. The student is made familiar with different stones by illustrating each recitation with specimens of the particular rocks treated, as well as their adaptability in construction, method of occurrence, etc. Ries and Watson: Engineering Geology. Two hours lecture. First semester. Two units.

34. Mineralogy. A course in Mineralogy with access to a large collection of specimens. Determination of unlabeled specimens. Crystallography. Blowpipe analysis. Includes a short course in Metallurgy. Iron ores and production of iron and steel. Percentage and effect of sulphur, silicon manganese and carbon in iron and steel. Coals, coke, carbons and ash. Two hours lecture. Second semester.
Prerequisite: Geology 1. Two units.

GERMAN

1. Elementary German. Elements of German grammar. Drill in pronunciation. Vocabulary. Three hours. First semester.
Three units.

2. Elementary German. A continuation of German 1. Syntax. Oral and written exercises. Reading from more simple German prose. Three hours. Second semester. Three units.

3. Intermediate German. Review of syntax. Translation. Oral and written exercises. Reading of somewhat difficult German prose. Three hours. First semester.

Prerequisite: German 2. Three units.

4. Intermediate German. Reading, written and oral exercises. This course aims at preparing the student to read the more difficult German writers. Three hours. Second semester.

Prerequisite: German 3. Three units.

5-6. Advanced Composition and Reading. Composition; sight reading; oral and written reports in German; conversation; historical survey of German literature. This course is conducted almost entirely in German. Three hours. Both semesters. Six units.

GREEK

1. Elementary Greek. The course is intended for those who enter without Greek. Grammar; simple prose selections; composition. Three hours. First semester. Three units.

2. Elementary Greek. A continuation of Greek 1. Readings from Xenophon: Anabasis, with prose composition based on Xenophon. Three hours. Second semester. Three units.

3. Intermediate Greek. A continuation of the grammar, with readings and prose composition. Selected portions of the Iliad or Odyssey; Homeric Dialect; outline of Greek epic poetry. Three hours. First semester. Three units.

4. Intermediate Greek. A continuation of Greek 3, with special emphasis on sight reading and advanced prose composition. Three hours. Second semester. Three units.

5. Demosthenes. A study of the Philippics, Olynthiacs and the speech on the Crown as models of oratorical art; analysis, discussion and criticism. Three hours. One semester. Three units.

6. Homer and Sophocles. A study of the Iliad and Odyssey of Homer; Oedipus Tyrannus of Sophocles. Three hours. One semester. Three units.

7. A Study of Selected Greek Lyrics. Three hours. One semester. Three units.

8. Plato. Readings from Plato. An analysis, discussion and criticism of his works. Three hours. One semester. Three units.

101. Historical Survey of Greek Literature. Special emphasis on its natural growth and reflection of Greek history. Influence on Latin and Modern Literature. Three hours. One semester. Three units.

102. Greek Historical Prose. Selections from Herodotus and Thucydides. Comparison of styles and critical spirit. Three hours. One semester. Three units.

103. Aeschylus and Sophocles. A tragedy of each with special emphasis on tragic structure and metric. Three hours. One semester. Three units.

104. Euripides and Aristophanes. One play of each (probably "Medea" and "Frogs"). Attention especially to Aristophanes' crit-

icism of Euripides, and the relation of the two men to their times. Three hours. One semester. Three units.

105. Comparative Drama. A course supposing and supplementing Greek 103-104. Special study of the evolution of dialogue, chorus and dramatic character. Lectures on the Greek Theatre and its conventions. Two hours. One semester. Two units.

106. Lysias, Isocrates. Selected speeches. A study of the growth of Attic prose. Three hours. One semester.
Prerequisite: Greek 5. Three units.

107. St. John Chrysostrom, St. Basil. Selected orations with special reference to rhetorical style. Comparison with the Attic orators. Three hours. One semester. Three units.

HISTORY

Students who wish to make History their major subject, besides completing the other required courses of the lower division, must pass the courses in History 1-2 and Political Science 1-2 with at least a grade of C.

The major program must include 24 units of upper division History courses. A grade of C must be maintained in all courses of the major and, at the end of the senior year, each student must pass a comprehensive final examination.

1-2. History of Modern Europe. A general survey of European civilization from the beginning of the sixteenth century to the present time. Political activities in the various countries. Nationalism. Protestantism and the religious wars. Later irreligious tendencies and the French Revolution. Social factors of the nineteenth century. The first half-year's work extends to the Congress of Vienna. The second half-year's work extends to the present time. Three hours. Both semesters. Six units.

101-102. The Renaissance and the Reformation. A critical study of the revival of the Old and the birth of the New Learning. Criticism of existing institutions. Rejection of the authority of the Church. The influence of this period on Italy, Germany and France. Three hours. Both semesters. Six units.

103. Europe in the Seventeenth and Eighteenth Centuries. The rise and fall of Absolutism. Development and consolidation of the national states. The growth of colonial empires. The decline of Spanish and Dutch power. The rise of England and France and the struggle for world power. Three hours. One semester. Three units.

104. The Revolutionary Period in History. A survey of the revolutionary movements in Europe from the French Revolution of 1870. The anti-Clerical movement. The effects of the Industrial Revolution. The gradual spread of the spirit of democracy. Three hours. One semester. Three units.

105-106. History of the United States. A general course dealing with the different forms of government under which the colonists were ruled. The independence of the colonists in political affairs. The efforts of the colonists to unite for mutual political protection. The protests against coercion. The Declaration of Independence. The

Articles of Confederation. The Constitution. The political history of the United States. Three hours. Both semesters. Six units.

107. Europe since 1870. A study of the gradual completion of political democracy. Its application to meet social needs. Its entanglements with nationalist and imperialistic sentiment. The struggle for paramount influence in the Balkan States. Various causes of the World War. A post-war survey of the political, social and economic conditions in Europe. Three hours. One semester. Three units.

108. England under the Tudors and the Stuarts, 1485-1689. The political situation at the close of the War of the Roses. The efforts of the throne to dominate over all political, social and religious institutions. The political theories of the Stuarts. The Puritan Revolution. The civil war. The Cromwellian Period. The policy of restoration. The revolution of 1688. Three hours. One semester. Three units.

109. Greek History. Homeric Age to the Fall of Corinth. Three hours. One semester. Three units.

110. Roman History. From its beginning to Constantine. Three hours. One semester. Three units.

111. Mediæval History. Survey from the Edict of Milan to the Discovery of America. Three hours. One semester. Three units.

ITALIAN

1. Elementary Italian. Elements of Italian Grammar. Drill in Pronunciation. Vocabulary. Three hours. First semester. Three units.

2. Elementary Italian. A continuation of Italian 1. Syntax; oral and written exercises. Reading from simpler Italian prose. Three hours. Second semester. Three units.

3. Intermediate Italian. Review of grammar and syntax. Translation. Oral and written exercises. Reading of somewhat difficult Italian prose. Three hours. First semester.

Prerequisite: Italian 2. Three units.

4. Intermediate Italian. Reading, written and oral exercises. This course aims at preparing the student to read the more difficult Italian writers. Three hours. Second semester.

Prerequisite: Italian 3. Three units.

5-6. Italian Literature. A study of special periods and writers in Italian literature, with emphasis on their literary qualities. The development of fluency in Italian composition and pronunciation. An easy reading, writing and conversational knowledge of Italian is presumed. Three hours. Both semesters.

Prerequisite: Italian 4. Six units

LATIN

1. Cicero. The orations studied as methods of oratorical art; rapid reading, analysis, discussion, criticism. Latin composition based on special text and matter read in class. Three hours. First semester.

Prerequisite: High School Latin: 4 years. Three units.

2. The Epic—The Aeneid. After reading books VII-XII, the

poem will be studied as a whole, special attention being given to the sources, to the epic technique and literary art of Virgil and to the tracing of his influence in the literature of the world. Narration and descriptive composition based chiefly on the text of the Aeneid and implying a discrimination of the vocabularly and syntax of prose and verse. Students will write three compositions weekly. Three hours. Second semester.

Prerequisite: Latin 1. Three units.

3. The Latin Historians. Copious reading in Sallust, Curtius, Pliny and Livy, with critical consideration of the historical works of these writers, and collateral reading directed to reach an appreciation of their place in Latin literature. Latin composition based on the Latin historians. Three hours. First semester

Prerequisite: Latin 2. Three units.

4. The Lyric and Elegiac Poets. The Odes of Horace, books I-IV, with selections from the "Ars Poetica," and the elegies of Ovid and Propertius, will be read and carefully studied. Such phases of Roman life as are suggested will be the subject of collateral reading under the direction of the professor. Latin composition. Students will be expected to show facility and elegance of diction in their written work. Three hours. Second semester.

Prerequisite: Latin 3. Three units.

7. Special Latin. A rapid review of elementary Latin, including grammar, composition and rapid reading of easy passages. Intended for students with an amount of High School Latin insufficient to enter Latin 1. Three hours. Both semesters.

Prerequisite: High School Latin, 2 years. Six units.

11. The Odes and Epodes of Horace. Selections including the greater part of Horace's lyrical works, studied with relation to their background, literary art and metrical form. Three hours. One semester. Three units.

12. The Elegiac Poets. Selections and studies in Ovid, Propertius and Tibullus. Origin and development of the elegiac form. Three hours. One semester. Three units.

101. The Drama. A critical study of the Latin dramatists: Seneca, Plautus, Terence. Three hours. One semester. Three units.

102. Historical Survey of Latin Literature. Special emphasis on its influence upon Modern Literature. Three hours. One semester. Three units.

103. Tacitus. A study of the qualities of the style of Tacitus with some consideration of his characteristics as an historian. Two hours. One semester. Two units.

104. Virgil. The earlier works, particularly the Eclogues and Georgics. Consideration of the character of Virgil through his ideas and aims. Two hours. One semester. Two units.

105. Christian Poetry. From its beginnings to the fourteenth century. Two hours. One semester. Two units.

106. Patristic Latin. A study of the variations from the Latin of the Augustan and Silver Ages as shown in the Fathers of the Church. Two hours. One semester. Two units.

107. Horace's Satires and Epistles. Characteristics of the Roman Satire, Horace's philosophy of life and of literature. Two hours. One semester. Two units.

108. Cicero. The Tusculan Disputations and Somnium. Reading of the entire work, with attention to the style of Cicero as a didactic writer and to his philosophy. Two hours. One semester. Two units.

109. Quintilian. Institutio Oratoria. Quintilian as teacher and rhetorician. Two hours. One semester. Two units.

110. Seneca. Selections from the essays and epistles; Seneca the moralist compared with Cicero. Seneca's style. Two hours. One semester. Two units.

111. Pliny The Younger. Selection from the letters as groundwork for the study of Roman life under Nerva and Trajan. Two hours. One semester. Two units.

112. Medieval Latin. The Latin of the Middle Ages in relation to the Classical and to the formation of the modern Romanic languages. Lectures and readings. Two hours. One semester. Two units.

113. Latin Style. Advanced composition in the essay and oratorical styles. Analysis of the periodic structure and amplification. The chria and 'declamatio'. Work to be done under the direction of the professor. Two hours. Two semesters. Four units.

114. Latin Verse Composition. Prosody and verse forms. Original compositions in lyric, distich and hexameter verses. Work to be done under the direction of the professor. Two hours. One semester. Two units.

115. Latin Conversation. Instruction in the technique of Latin conversation. Opportunity will be given to select groups for daily practice in oral composition. Examinations are conducted orally. Two hours for four semesters. One unit per semester.

LAW

Courses 1-4 are limited to students registered in the College of Business Administration.

1. **Contracts.** Elements of a contract; parties; consideration; illegal and void contracts; construction; verbal and written contracts; Statute of Frauds; termination; breach; damages. Two hours. First semester. Two units.

2. Negotiable Instruments, Sales. Bills, notes, drafts and checks; acceptance of drafts; certified checks; rights and liabilities of endorsers; presentment; notice of dishonor; protest. Sales: the contract of sale; immediate and future sales; rights and duties of consignee, consignor and carrier; stoppage and loss in transit; setting aside sales; warranties. Two hours. Second semester. Two units.

3. Agency, Bailments and Carriers. Who may be agents and how appointed; rights and duties of agents and principals in reference to each other and to third parties; termination. Bailments: nature and classification; innkeepers. Common carriers, carriers and passengers; of goods, telegraph and telephone companies. Three hours. First semester. Three units.

4. Partnerships and Corporations, Bankruptcy. Articles of copartnership; rights of partners against each other; rights of creditors against firm and partners; kind of partners; termination, liquidation of assets. Corporations: charter and by-laws; stockholders'

and directors' meetings; forms of corporate stock; elections; ultra vires acts; directors' and stockholders' liabilities; rights of creditors; dissolution. **Bankruptcy:** Who may become bankrupts; exemptions; duties; compositions; discharge; offenses against bankruptcy law; trustees and referees; preferred creditors. Three hours. Second semester. Three units.

91. Business Law. A brief course in Contracts, Sales, Negotiable Instruments, Real Estate, Partnership, Corporations and such other subjects as may be selected. This course is designed for students in the College of Engineering. Allen: Business Law for Engineers. One hour lecture. Second semester. One unit.

101. Introduction to Law. The development of the common law in England and the United States. Spirit of the common law, the nature of judicial process, the doctrine of stare decisis and its proper application. The reasons for the case method in the study of law, the proper use of case books. One hour lecture. One semester. One unit.

Professional Courses

First Year

105. Contracts I. Offer and acceptance, consideration, assignments, joint contracts, joint and several contracts, conditions, third party beneficiary, breach. Three hours. Two semesters. Six units.

107. Criminal Law and Procedure. Jurisdiction, procedure, elements of criminal liability, various crimes, criminal intent, malice. Two hours. Two semesters. Four units.

109. Property I. Ownership, legal title, equitable title, possession, fixtures, emblements, introduction to real property law, adverse possession, deeds, uses. Three hours. Two semesters. Six units.

111. Agency. Nature of agency relation, distinguished from other relations, rights of third persons against principal, against agent, rights and duties of principal and agent inter se, liability of principal for acts of agent in contract, in tort, liability of principal for acts of independent contractor. Two hours. One semester Two units.

112. Torts. Negligence, intentional harms, libel and slander, causation. contributory negligence, last clear chance doctrine. Two hours, first semester. Three hours, second semester. Five units.

115. Common Law Procedure. Early forms of action, various pleas at Common Law, importance in modern pleading. Two hours. One semester. Two units.

Second and Third Years

202. Bailments and Carriers. Two hours. One semester. Two units.

203. California Practice. Pleading and practice in California. Two hours. One semester. Two units.

204. Code Procedure. Provisions of California Codes. Two hours. One semester. Two units.

206. Conflict of Laws. Status, real property rights, rights in personality, nature of domicile, domicile distinguished from nationality, administration of estates. Two hours. Two semesters. Four units.

207. Constitutional Law. Equal protection of laws, due process of law, impairment of contract, separation of powers, theories of constitutional interpretation, full faith and credit clause, interstate commerce clause, the three branches of government, states' rights. Two hours. Two semesters. Four units.

208. Damages. Contracts and torts. Two hours. One semester. Two units.

210. Equity. Origin and nature of equity jurisdiction, jurisdiction in personam and in rem, extra-territorial effects of equity decree, specific reparation for torts, specific performance of contracts, injunctive relief, fallacies believed equitable maxims and dangers inherent in their use, nature of so-called equitable defenses, bills of interpleader, bills to quiet title, mutuality of performance and mutuality of remedy distinguished, equitable servitudes. Three hours, first semester. Two hours, second semester. Five units.

211. Evidence. Questions of law and fact, burden of proof, witnesses, hearsay rule, documentary original rule, res gestae, admissions, confessions, opinion rule so-called, rationalization of rules of evidence. Two hours. Two semesters. Four units

213. Legal Ethics. Jessup: Professional ideals of the Lawyer. Two hours. One semester. Two units.

215. Negotiable Instruments. Promissory notes, bills of exchange, checks, Uniform Negotiable Instruments Law. Two hours. One semester. Two units.

216 Partnership. Nature of relation, rights and obligations as to third persons, rights and obligations inter se, creation, management and dissolution. Two hours. One semester. Two units.

217. Corporations. Corporate entity, de facto corporations, rights of stockholders, relation of directors to corporation, limitations upon powers of directors, corporate stock, bonds, by-laws. Two hours. Two semesters. Four units.

218. Property II. Real property, covenants running with land, title, boundaries, future interests. Three hours. Two semesters. Six units.

219. Sales. Uniform Sales Act. Two hours. One semester. Two units.

220. Trusts. Nature of trust relation, rights of cestui qui trust, administration of trust, resulting trust, constructive trust, creation and termination of trust, nature of trustee's title. Two hours. Two semesters. Four units.

222. Wills and Administration. Probate, distribution of estate, requirements for valid will, execution, revocation and alteration of will, distinction between various types of legacies. Two hours. One semester. Two units.

224. Suretyship and Mortgages. Surety relation, mortgagor and mortgagee. Two hours. One semester. Two units.

225. Domestic Relations and Community Property. Marriage, divorce, marital property. Two hours. One semester. Two units.

226. Contracts II. Excuses for non-performance, impossibility, mistake, illegality, damages for breach of contract, remedies for breach, rescission, specific performance, restitution, quasi-contracts. Three hours. One semester. Three units.

227. Taxation. Power to tax; jurisdiction to tax; taxation of persons and property; inheritance taxes; State and Federal taxes; remedies. Three hours. One semester. Three units.

In addition to the above courses, a course in accountancy will be required of all students registered in the College of Law. This course has been specifically designed to meet the needs of the law student in view of the accounting problems he may reasonably expect to encounter in the subsequent practice of law.

Econ. 30A-B. Survey of Accounting. This course is designed to meet the needs of students whose major interest is the practice of law. To that end the phases of accounting treated are those which involve a consideration of partnerships, corporations, ventures, syndicates, estates, trusts, and the problems involving asset valuation in public utility rate making cases. Two hours lecture. Both semesters. Four units.

All students taking Law are required to attend without credit all sessions of the Moot Court and all special lectures given during the scholastic year.

1. Algebra. Review of the fundamental operations; exponents; linear and quadratic equations; logarithms; progressions; the binomial theorem. Three hours. One semester Three units.

2. Trigonometry. The generalized definitions of the trigonometric functions for any angle; inverse functions; functions of the sum and difference of two angles; of multiple angles; of half angles; trigonometric identities and equations; graphs of the trigonometric functions; solution of right and oblique triangles. Three hours. One semester. Three units.

Prerequisite: Math. 1.

6. Analytic Geometry. Loci and their relations; graphs of functions;transformation of coordinates; the straight line; the conic sections; polar coordinates; parametric equations. Three hours. One semester. Three units.

Prerequisite: Math. 2.

7. Calculus. Fundamental concepts of variables, functions, limits, derivatives and differentials; differentiation of the elementary algebraic and transcendental functions; application to maxima and minima; successive differentiation and its application to curve plotting; the derivative as a rate change. Three hours. One semester. Three units.

Prerequisite: Math 6.

8. Calculus. The fundamental concepts of the anti-derivative and the definite integral defined as the limit of a sum; geometric applications to lengths, areas, surfaces and volumes; applications to Physics and Mechanics. Three hours. One semester. Three units.

Prerequisite: Math. 7.

9. Calculus. Space geometry; multiple integration; partial differentiation; theorem of the mean; Taylor's series; evaluation of indeterminate forms. Three hours. One semester. Three units.

Prerequisite: Math. 8.

10. Mathematics of Finance. A course covering the mathematical principles upon which interest, discount, annuities, bond issues and life insurance are based. Prescribed for all students registered in the College of Business Administration. Three hours. One semester. Three units.

Prerequisite: Math. 1.

21. Algebra. Review of Algebra through quadratic equations; then more particularly—ratio and proportion; progressions; imaginary and complex numbers; binomial theorem; variables and limits; inequalities; interpretation of results; logarithms; undetermined coefficients. Three hours. One semester. Three units.

22. Trigonometry. Development of the general formulae; relations of the trigonometric functions; porperties of triangles; functions of a single angle; identities and equations; practical applications; functions of more than one angle; oblique triangles; the Argand diagram; DeMoivre's Theorem; Spherical trigonometry. Two hours. One semester. Two units.

Prerequisite: Math. 21.

23. Analytic Geometry. Graphs; loci and equations; the straight line; the conics; parametric equations; transformation of coordinates; polar coordinates; higher plane curves; solid analytic geometry; spherical and cylindrical coordinates. Three hours. One semester. Three units.

Prerequisite: Math 22.

24. Calculus. Fundamental formulae and principles for differential and integral calculus; maxima and minima; curvature; surfaces; volumes; intermediate forms; envelopes; series; expansion; forms of integration; practical applications. Three hours. One semester. Three units.

Prerequisite: Math. 23.

25 Calculus. Continuation of Math. 24. Three hours. One semester. Three units.

116. Differential Equations. Analysis and deduction of formulae and equations used in Physics, Mechanics and engineering problems; applications of formulae and equations given in engineering problems; applications of formulae and equations given in engineering handbooks to problems; practical problems and lectures. Two hours. One semester. Two units.

Prerequisite: Math. 25.

117. Method of Least Squares. Study of the principles and methods; application to solution of physical, astronomical, engineering and other problems, especially triangulations. Two hours. One semester Two units.

Prerequisite: Math. 25.

MECHANICAL ENGINEERING

4. Machine Drawing. Language of Mechanical Drawing. Conventional method of representing bolts, screws and other standards. Piping. Designing and detailing simple parts to take tension, compression and shear. Study of different methods of drawing and dimensioning found on commercial working drawings. Accuracy, completeness and speed are required. French: Engineering Drawing. Six hours lecture and drawing. Second semester. Two units.

10. Shopwork—Machine Shop. Practical work in the machining of different grades of iron, steel, bronze, and other metals. Oxy-acetylene and arc welding. New machines and machine parts are constructed. Shop visits to nearby industrial plants. Shop notes, and references on shopwork and welding. Some lectures. Three hours laboratory. First semester. One unit.

11. Shopwork—Machine Shop, Foundry. A continuation of M.E. 10, with the addition of non-ferrous foundry work. Core making and molding. Castings of aluminum, brass, bronze, and alloys. Shop visits. Lectures. Three hours laboratory. Second semester. One unit.

15. Mechanical Engineering Laboratory. Method of Investigation. Accuracy of numerical calculations. Measurement of pressure. Measurement of temperature. Determination of moisture in steam. Planimeters. Dynamometers. Testing of lubricants. Moyer: Power Plant Testing. Six hours laboratory. First semester. Two units.

105. Machine Design. Selection of materials for machine parts. Proper working stresses for different materials under dead, repeated and reversed loads. Determination of nature and distribution of stresses in each element of a machine. Design and details of a simple machine. Friction. Figuring weight and cost of manufacture. Kinematic layout of a machine for functional operation. Design, layout and details of a complete machine. Faires: The Design of a

Machine Elements. Faires and Wingren: Problems on the Design of Machine Elements. Six hours laboratory. First semester. Two units.

106. Machine Design. Continuation of M.E. 105. Six hours laboratory. Second semester. Two units.

107. Machine Design. The evolution of a design from preliminary sketch to complete working drawing. Study of symmetry, ease of operation and repair, depreciation and cost of manufacture. Vibration of machines. Design and working drawings of a complete machine. Albert: Machine Design Problems. Six hours laboratory. First semester. Two units.

107a. Machine Design. Continuation of M. E. 107. In this course the design begun in M. E. 107 is completed. Six hours laboratory. Second semester. Two units.

108. Power Plant Design. Sites. Comparison of high speed engines. Corliss engines, steam turbines and gas engines. Cost and adaptability of different types of steam boilers. Condensers. Economizers. Superheaters. Pumps. Stokers. Piping. Complete layout of a plant with specifications and advertisements for bids. Morse: Power Plant Engineering and Design. Six hours drawing. First semester. Two units.

116. Mechanical Engineering Laboratory. Engine indicators and condenser tests. Tests of complete power plants. Analysis of gaseous fuels. Flue gas analysis. Calibration of instruments. A.S.M.E codes for testing power plant equipment. Moyer: Power Plant Testing. Three hours laboratory. Second semester. One unit.

117. Mechanical Engineering Laboratory. Internal combustion engine tests, both Diesel and Otto Cycle engine tests. Boiler, steam engine and refrigeration machinery tests. Moyer: Power Plant Testing. Six hours laboratory. First semester. Two units.

117a. Mechanical Engineering Laboratory. Turbogenerator and condenser tests. Tests of complete power plants. Analysis of cost of power in commercial plants. Moyer: Power Plant Testing. Six hours laboratory. Second semester. Two units.

118. Heat Power. Energy and its transformation. History. Energy equations. Properties of gases. Gas cycles. Performance of engines. Internal combustion engines. Vapors. Vapor cycles and engines. Steam turbines. Selection of units. Governors. Heat transmission. Fuels. Combustion. Furnaces. Boilers. Auxiliaries. Barnard; Ellenwood and Hirshfield: Heat Power Engineering. Two hours lecture. First semester. Two units.

Prerequisites: Physics 14 and 15.

119. Heat Power. Continuation of M.E. 118. Two hours lecture. Second semester. Two units.

Prerequisite: M. E. 118.

120. Thermodynamics. Properties of Steam. Law of conservation of energy. Simple thermodynamic processes of steam. Available energy for unheated engines. Ideal steam cycles. Perfect gases. Compressed air. Perfect gas cycles. Available energy and thermal efficiency. Refrigeration and evaporation. The second law

of thermodynamics. Flow through nozzles, venturi tubes and orifices. Emswiler: Elements of Thermodynamics. Three hours lecture. First semester.

Prerequisite: M. E. 119. Three units.

121. Internal Combustion Engines and Automobiles. The theory and design of gas, gasoline and oil engines, gas producer practice; the combustion of gaseous fuels. Streeter: Internal Combustion Engines. Two hours lecture. First semester.

Prerequisite: M. E. 120. Two units.

122. Hydraulic Motors. Action of water on curved vanes. Forces developed and effect of impact. Work done. Centrifugal action. Reaction turbines. Vane form and arrangement. Axial, radial and mixed flow wheels. Losses due to friction, shock, leakage and residual velocity. Impulse turbines. Experiments with turbines of various types. Governors. Centrifugal pumps. Theory. Radial and curved vanes. Velocity of flow. Volute. Diffuser. Guide vanes in diffuser. Impeller passages. Balancing. Losses. Efficiency. Selection and arrangement of water-wheels. Governors and auxiliary apparatus. Relation between available water supply, possible output and perfection of development work. Draft tubes. Stop valves. Gates. Vacuum and pressure relief standpipes. Analysis of typical installations. Water power costs. Daugherty: Hydraulic Turbines. Two hours lecture. Second semester.

Prerequisite: G. E. 121. Two units.

125. Heating and Ventilation. Theory and design of the various systems for heating and ventilating buildings, including hot air, hot water, steam and the plenum and vacuum systems and central station heating. Hoffman: Handbook for Heating and Ventilating Engineers. Two hours lecture. First semester. Two units.

126. Heating and Ventilation. Continuation of M. E. 125. Two hours lecture. Second semester. Two units.

170. Thesis. Original investigation of some Engineering problem. Two units.

MILITARY SCIENCE AND TACTICS

Lower Division Courses

The lower division or basic course is prescribed for all first-year and second-year undergraduate students who are citizens of the United States, able bodied, and under twenty-one years of age at the time of admission to the University. A first-year or second-year student claiming exemption because of non-citizenship, physical disability, or age will present to the Department of Military Science and Tactics, a petition, on the prescribed form, for such exemption. Pending action on his petition the student will enroll in the courses prescribed for his year and enter upon the work of such courses.

1-2. Freshman Field Artillery. Military fundamentals, discipline, sanitation, first aid, organization, leadership, field artillery instruction. One hour theory, two hours practice. Two semesters. Three units.

3-4. Sophomore Field Artillery. Field artillery instruction, leadership, transport, military motor vehicles, fire control instruments, battery communications, map and aerial photograph reading. One hour theory, two hours practice. Two semesters. Three units.

Upper Division Courses

The advanced course covers a period of two years and is designed to qualify the student in the duties of a commissioned officer. Students once registered for this course must carry it to completion. The Advanced Course student is given an allowance of forty dollars for uniform-clothing for the two-year period, and is paid nine dollars per month, except during the six weeks summer training camp period (Required) between the junior and senior years, when he is paid at the rate of twenty-one dollars per month. He also receives mileage to and from camp, and all expenses while in camp, including rations, medical attention, clothing, laundry service, and lodging. Students who carry this course to a successful completion are commissioned as second Lieutenants in the Officers' Reserve Corps of the United States Army.

101-102. Junior Field Artillery. Reconnaissance, selection and occupation of position, leadership, gunnery, transport, military motor vehicles, service of the piece. Three hours theory, two hours practice. Two semesters. Eight units.

103-104. Senior Field Artillery. Military history and policy. military law and administration, leadership (Work as instructor in all practical basic field artillery subjects), tactics. Three hours theory, two hours practice. Two semesters. Eight units.

Ceremonies

In addition to the above requirements, five hours per semester are devoted to parades and reviews when the entire cadet corps is formed. The dates when these additional formations are scheduled will be designated during the particular semester in which they are held.

MORAL THEOLOGY

Prerequisite for the following courses:

A Master's Degree or its equivalent in Scholastic Philosophy, facility in the written and spoken use of the Latin language, and a reading knowledge of Greek are required.

SECTION A—MORAL THEOLOGY

201. Moral Principles. Human acts, conscience, law, sin. Four hours. One semester. Three units.

202. General Duties. The virtues; precepts of the Decalogue; precepts of the Church. Four hours. One semester. Three units.

203. Christian Aids. Part I. The Sacraments. Four hours. One semester. Three units.

204. Christian Aids. Part II. A continuance of the Sacraments. Sacramentals; indulgences. Four hours. One semester. Three units.

205. Survey of Sociology. The essential postulates of a correct sociology. Nature of man and society. Environmental influences. The family, religious society, the state, occupational groups, international society. Property and property rights. Socialism. Christ and society. The Church and sociology. The supernatural element in Catholic social thought. Three hours. One semester. Three units.

206. Social Ethics and Morals. The application of the general principles of ethics and morals to social rights and obligations; the right to property, life, honor; the rights and obligations of domestic society, marriage and divorce; civil society, its nature and forms; the rights of civil authority; the ethics and morals of occupational groups, of international society. Three hours. One semester Three units.

207. Social Theories and Catholic Action. An analysis and appreciation of several "classical theories"; the Catholic program as represented in Papal Encyclicals. Three hours. One semester. Three units.

208. Social Economics. Study of the Labor Encyclicals. Elements of social conflict. Capitalism, Liberalism, Technology, Economic Dictatorship. The Marxian program, changes in socialism. Private ownership. Distribution. Duties of State to Labor. Exploitation, strikes, wages, distribution of ownership, trade unionism. The system of occupational groups. Christian Social Action. Three hours. One semester. Three units.

209. Democratic Industry. The rise of labor from slavery of ancient times through serfdom and feudalism to the Gilds of the Middle Ages. The wage contract, wage bargain and modern labor organization. The influence of the Church in the movement. Three hours. One semester. Three units.

210. Seminar. Hours and units to be assigned.

SECTION B—CANON LAW

251. The Codex of Canon Law. Books I, II, and V. Two hours. One semester. Two units.

254. The Codex of Canon Law. Books III and IV. The sacraments and sacramentals. Ecclesiastical procedure. Two hours. One semester. Two units.

261. History of Canon Law. Development of Roman Law and Roman elements in Canon Law. The sources of Canon Law. Two hours. One semester. Two units

262. Seminar. Hours and units to be assigned.

SECTION C—LITURGY

201. The Nature of the Liturgy. A scientific analysis and historical review of the liturgy. Its spirit. Its symbolism and realism. Liturgical vestments. The liturgy of the sacraments, of the Sacrifice of the Mass, of ecclesiastical burial. One hour. One semester. One unit.

211. The Mass and the Sacraments. A practical course on the celebration of the Sacrifice of the Mass and the administration of the Sacraments. Lectures, one hour a week, one semester; practice, a minimum of two hours a week, two semesters. Credit to be arranged.

221. The Roman Breviary. History and modifications. Lectures, one hour a week, one-half semester; practice, a minimum of two hours a week, one semester. Credit to be arranged.

231. Ecclesiastical Music. The theory of ecclesiastical music. The Gregorian chant and later developments. Lectures, one hour a week, one semester; practice, a minimum of one hour a week, one semester. Credit to be arranged.

281. Oriental Rites. A survey course of the Oriental rites, their history, political setting, content and influence from the fourth century to the present. One hour. One semester. One unit.

282. History of Asceticism. Dominant ideas and ideals from the age of the Fathers to the present time. Their genesis, development and influence on European civilization. Three hours. Two semesters. Six units.

283. Seminar. Hours and units to be assigned.

PHILOSOPHY

Students who wish to make Philosophy their major subject, besides completing the other required courses of the lower division, must pass the courses in Philosophy 5-6 with at least a grade of C.

The major program must include 24 units of upper division courses in Philosophy. An average grade of C or higher must be maintained in all courses of the major and, at the end of the senior year, each student must pass a comprehensive final examination.

3. Metaphysics. Ontology or the theory of Being. An investigation of the primary concepts and first principles on which any rational scheme of the universe is based. Being and its transcendental attributes: unity, truth, goodness, beauty. The categories: substance and accident. The problem of being and becoming: potential and actual being. Causality: efficiency and finality. Three hours lecture. One semester. Three units.

4. Philosophy of Nature. Cosmology. The fundamental philosophical principles which underlie the three sciences of physics, chemistry and biology. The properties of matter: atomism, dynamism, hylomorphism and recent theories. The destiny of the world: mechanism vs teleology. Life: mechanistic and vitalistic theories. Evolution. Three hours lecture. One semester. Three units.

5-6. History of Philosophy. A comprehensive survey of ancient, patristic, medieval and modern philosophy. Three hours. Both semesters. Six units.

7. Introduction to Philosophy. Divisions of Philosophy. The nature and discussion of the particular problems studied in each division of Philosophy. Three hours. First semester. Three units.

9. Logic. A preliminary course leading the student into the field of philosophy. Concepts and terms. Judgments and propositions. Reasoning and argument. The syllogism and its laws. Types of argumentation. Method: deduction and induction. Fallacies. Exercises in the construction and criticism of arguments. Three hours lecture. One semester. Three units.

10. Epistemology. The theory of knowledge. An analysis of the critical problem and its many proposed solutions. Scepticism vs. dogmatism. Realism vs. idealism. Empiricism vs. rationalism. The nature, possibility, extent and criteria of certitude. Truth and error. The trustworthiness of sensation and reason. Three hours lecture. One semester. Three units.

31. Logic. The reasoning faculties and processes. Law of thought. Truth. Certitude. Doubt. False Systems. Three hours. First semester. Three units.

32. Ontology, Psychology. Being, its origin, development, explanation. Life, its origin and kinds. Origin of Species. Darwinism. Huxley. Haeckel. The soul, its origin and spirituality. Three hours. Second semester. Three units.

33. Theodicy. God, His existence, nature and attributes. Creation. Providence. Miracles. Three hours. First semester. Three units.

34. Ethics. Right and Wrong. Natural Law. Sanction of Law. False forms of morality. Worship. Homicide. Suicide. Dueling.

Society. Marriage. Divorce. Socialism. Theories of government. Suffrage. Liberty of the press. Church and State. Three hours. Second semester. Three units.

101. Philosophy of Mind. A study of both the phenomena and the source of consciousness. Sensation: the nervous system, perception, imagination, memory, appetition, instinct. Thought: the principle of thought, the origin of ideas, attention, abstraction, reflection, judgment, inference. Free-will vs. determinism. Nature, origin and destiny of the human soul. Union of the soul and body, relation between the psychic and physical parts of man. Three hours lecture. One semester. Three units.

102. Philosophy of Theism. Theodicy. Theism, pantheism deism, agnosticism and atheism examined from the purely philosophical standpoint. God in the philosophies of Plato, Aristotle, Augustine, Aquinas, Descartes, Spinoza, Leibnitz and Kant. Critical examination of the arguments for God's existence. Attributes of God. Providence. God and the problem of evil. God and human free-will. Three hours lecture. One semester. Three units.

103. Fundamental Ethics. Treats the subjects belonging to general theory, the nature of the moral act, the distinction between moral good and moral evil, moral habits, natural and positive moral law; conscience, rights and duties. Three hours. First semester.
Prerequisite: Senior standing. Three units.

104. Applied Ethics. The application of the general principles of ethics to particular and social rights and obligations; the rights to property, life, honor; the rights and obligations of domestic society, marriage and divorce. Civil society; its nature and forms; the rights of civil authority. Church and state; the ethics of international relations, peace and war. Three hours. Second semester.
Prerequisite: Philosophy 103. Three units.

105. Philosophy of the Greeks. A study of the development of Greek thought from the Pre-Socratic era, through Plato and Aristotle, to the Greco-Oriental period. Lectures, essays and required readings. Three hours. One semester. Three units.

106. Scholastic Philosophy. The history of philosophy from the Patristic age to the age of Humanism, laying particular stress on the formation and development of scholastic philosophy from the seventh to the end of the thirteenth century. Its decline during the transition to more recent philosophies, 1300-1620. Its revival in the nineteenth century. Lectures, essays and required readings. Three hours. One semester. Three units.

107. Recent Philosophy. Descartes to Kant, 1620-1780. A study of the Intellectualist movement from Descartes to Leibnitz and of English and French Empiricism. Lectures, essays and required readings. Three hours. One semester. Three units.

108. Recent Philosophy. Kant and his successors. The Transcendental Idealism of Kant and the Monistic Idealism of his successors. Later varieties of the Empiricist theory. Pragmatism. Neorealism. Spiritualism. Lectures, essays and required readings. Three hours. One semester Three units.

121. Advanced Logic. An advanced course in the field of traditional logic, with systematic reference to its metaphysical and epistemological principles. Open only to philosophy majors.. Three hours. One semester. Three units.

122. Advanced Metaphysics. An intensive study of the questions and problems concerning mind and reality, with special reference to modern and recent metaphysical theory. Three hours. One semester. Three units.

PHYSICS

1. Mechanics, Molecular Physics, Sound. General principles of matter. General properties of bodies. Equilibrium. Gravity. Pendulum. Properties peculiar to solids. Capillarity. Hydro-dynamics. The properties of gases. Aerodynamics. Production, propagation and reflection of sound. The physical theory of music. Three hours lecture. First semester. Three units.

2. Physical Laboratory. To accompany Physics 1. Three hours laboratory. First semester. One unit.

3. Light, Heat, Electricity. Transmission, velocity and reflection of light. Mirrors. Lenses. Dispersion and achromatism. Optical instruments. The eye. Double refraction. Interference and polarization. Properties of magnetism. Laws of magnetic action. Terrestrial magnetism. Quantitative laws of electric action. Distribution. Electro-static induction of influence. Electric machines. Condensation of electricity. Voltaic cell. Its modifications. Magnetic field due to current. Galvanometers. Ohm's law. Conversion of electric energy into heat. Thermo-electricity. Electro-dynamics. Electro-magnets. Magnetization of iron. Telegraphy. Electro-magnetic induction. Passage of electricity through gases. Magneto and dynamo-electric machines. Dia-magnetism. Connection between electricity and light. Three hours lecture. Second semester.

Prerequisite: Physics 1, 2. Three units.

4. Physical Laboratory. To accompany Physics 3. Three hours laboratory. Second semester.

Prerequisite: Physics 1, 2. One unit.

11. Mechanics, Molecular Physics, Sound. General principles of matter. General properties of bodies. Equilibrium. Gravity. Pendulum. Properties peculiar to solids. Capillarity. Hydro-dynamics. The properties of gases. Aerodynamics. Two hours lecture. Second semester. Two units.

12. Wave Motion, Sound, Light. Production, propagation and reflection of sound. The physical theory of music. Transmission, velocity and reflection of light. Mirrors. Lenses. Dispersion and achromatism. Optical instruments. The eye. Double refraction. Interference and polarization. Two hours lecture First semester. Two units.

13. Physical Laboratory. To accompany Physics 12. Six hours laboratory. First semester. Two units.

14. Heat, Magnetism, Electricity. Properties of magnetism. Laws of magnetic action. Terrestrial magnetism. Quantitative laws of electric action. Distribution. Electrostatic induction of influence. Electric machines. Condensation of electricity. Voltaic cell. Its modi-

fications. Magnetic field due to current. Galvanometers. Ohm's law. Conversion of electric energy into heat. Thermo-electricity. Electrodynamics. Electro-magnets. Magnetism of iron. Telegraphy. Electromagnetic induction. Passages of electricity through gases. Magneto and dynamo-electric machines. Diamagnetism. Connection between electricity and light. Two hours lecture. Second semester.

Prerequisite: Physics 12, 13. Two units.

15. Physical Laboratory. To accompany Physics 14. Six hours laboratory. Second semester.

Prerequisite: Physics 12, 13. Two units.

104. Electrical Measurements. A laboratory course in Electrical Measurements intended primarily for students of Electrical Engineering. Three hours laboratory. One semester.

Prerequisite: Physics 14, 15. One unit.

121. Astronomical Physics. A laboratory course in the study of astronomical, meteorological and seismological phenomena in connection with the Observatory. Hours and credits to be arranged.

Prerequisite: One year of Physics and two years of Mathematics.

POLITICAL SCIENCE

Students who wish to make Political Science their major subject, besides completing the other required courses of the lower division, must pass the courses in History 1-2 and Political Science 1-2 with at least a grade of C.

The major program must include 24 units of upper division courses in Political Science. An average grade of C must be maintained in all courses of the major and, at the end of the senior year, each student must pass a comprehensive final examination.

1-2. Introduction to Political Science. Fundamental definitions and distinctions: state, government, nation, sovereignty, individual liberty. Nature, origin and forms of government. Separation of powers. Functions of government. Individualism, socialism and social reform. Three hours. Both semesters. Six units.

101. American National Government. Origin and development of the Constitution. Powers, functions and interrelation of executive, administrative, legislative and judicial branches of the government. Expansion of governmental activities. The national party system. Three hours. First semester. Three units.

102. National Administration in the United States. History, organization, personnel, business methods and accomplishments of the various departments of the administrative branch of the United States Government. Three hours. Second semester. Three units.

103. Theory of the State. A study of political theory dealing with the problems of the nature of the state, the purpose of government, liberty and authority, the nature of law and justice as treated by various political philosophers. Three hours. One semester. Three units.

104. American Political Theory. Underlying theories and principles of American governmental policy. Three hours. One semester. Three units.

105. American State and County Government. Constitutional development and governmental organization of the American states and counties, with special reference to California. Three hours. One semester. Three units.

106. Municipal Government. The nature, government and problems of cities, particularly in the United States. Three hours. One semester. Three units.

107. Introduction to International Law. The nature and scope of international law. Rights and duties of states. Jurisdiction. Nationality. Relations of states in peace and war. International law and the League of Nations. Three hours. One semester. Three units.

108. International Relations. The nature and importance of international relations. Underlying problems. Nationalism, militarism, imperialism. Agencies of control: diplomatic, administrative. Development of international organization culminating with the League of Nations. Three hours. One semester. Three units.

109. Political Parties in the United States. The political party as part of the political machinery. Party organization. Campaign methods. Public opinion and party leadership. The true functions of parties. Party responsibility. Three hours. One semester. Three units.

110. (Law 207). Constitutional Law of the United States. Fundamental principles and important cases. Two hours. Both semesters. Four units.

PUBLIC SPEAKING

1. Fundamentals of Expression. The fundamental principles of expression; the speaking voice; body and expressive movement. Training the voice and body to be the willing and obedient servant of the mind. Each student appears in memorized work in class. Two hours. First semester. One unit.

2. Fundamentals of Expression. A continuation of course 1, with development of impersonation and interpretation. Two hours. Second semester. One unit.

3. Philosophy of Expression. An advanced study of the principles of expression; advanced training of the voice; embodiment of principles in practice work. A short selected cutting of standard literature is presented by each student at each class. Special training in the interpretation of longer selections for public presentation. Two hours. First semester. One unit.

4. Philosophy of Expression. A continuation of course 3, with special emphasis upon impersonation, and standard speeches. Two hours. Second semester. One unit.

11. Fundamentals of Expression. A short course in expression intended primarily for students in the College of Engineering. Fundamentals of expression; the speaking voice; expressive movement; impersonation; interpretation. Each student must appear in memorized work at each class. One hour. First semester. One unit.

12. Fundamentals of Expression. A continuation of course 11. One hour. Second semester. One unit.

101. Aesthetics. An advanced course where every principle taught in previous courses is put to practical test. Each student is required to memorize and present during the course a short play, in which he impersonates all of the different characters and interprets both the particular parts and the play as a whole. One hour. First semester. One unit.

102. Aesthetics. A continuation of course 101. One hour. Second semester. One unit.

107. Dramatic Seminar. The mechanics of the theater and the staging of a play, both theory and practice. Lines: voice, body, impersonation. Business: pantomime and stage. Plots: ground, light, scenery, property. Mechanics: illusions and terminology. Criticism: play-reviewing and dramatic criticism. Hours and credits to be arranged.

109. Debating Seminar. The application of the principles of expression to the Debate. A study of the particular form of debating. Presentation and arrangement of ideas. Practical application of methods in connection with a major collegiate debate. Hours and credits to be arranged.

RELIGION

(a). Essentials of Christian Doctrine. Various creeds. The Apostles' Creed. Each article of the Creed is studied in particular, attention being given to any subject bearing directly on these articles, as Sin, the Powers of the Church, Infallibility, etc. Two hours. First semester. One unit.

(b). Essentials of Christian Doctrine. The Law of God. What is commanded or forbidden by the Decalogue is studied in detail. The Precepts of the Church, Grace, Prayer, and each of the Seven Sacraments together with collateral subjects. Two hours. Second semester. One unit.

1. Fundamental Apologetics. Revelation; guarantees of Revelation. Documents of Revelation. The authenticity, integrity and reliability of the four Gospels.
Two hours lecture. One semester. One unit.

2. The Church Of Christ. The Catholic Church as the Church of Christ. Its authenticity as a teaching and ruling body. The primacy of St. Peter. The nature and character of Christ's Church. The marks of the true Church of Christ.
Two hours lecture. One semester. One unit.

3. The Existence and Essence of God. The idea of the belief in God. The nature of Faith. The necessity and certainty of Faith. Sources of proof of God's existence. The nature and essence of God. The attributes of God. Pantheism and Atheism. Fundamental notions of the mystery of the Trinity.
Two hours lecture. One semester. One unit.

4. Creation. The Creation of the world. Original Justice. Original Sin. The Immaculate Conception. The General Judgment; Heaven; Hell; Purgatory.
Two hours lecture. One semester. One unit.

101. God The Redeemer. The Mystery of Redemption. The Incarnation. The divine and human natures in Christ. The divine and human wills of Christ, his theandric actions.
Two hours lecture. One semester. One unit.

102. God and Redemption. The merits of Christ. The Worship of Christ. The devotion to Mary, the Mother of God. The nature and necessity of Grace. Kinds of Grace.
Two hours lecture. One semester. One unit.

103. The Sacraments. The Sacraments as a means of Grace. The nature and efficacy of the Sacraments. Discussion of the Sacraments of Baptism, Confirmation and the Holy Eucharist.
Two hours lecture. One semester. One unit.

104. The Sacraments. A continuation of Religion 103. Discussion of the Sacraments of Penance, Extreme Unction, Holy Orders and Matrimony. A discussion of Christian morality.
Two hours lecture. One semester. One unit.

105-106. The New Testament, especially the Four Gospels. A word for word explanation of the text. Apparent discrepancies explained and harmonized. Two hours. Both semesters. Two units.

SACRED SCRIPTURE

Prerequisite for the following courses:

A master's Degree or its equivalent in Scholastic Philosophy, facility in the written and spoken use of the Latin language, and a reading knowledge of Greek are required.

202. General Introduction. The Canon of the Old and New Testaments. Apocryphal books. History of texts and versions of Sacred Scripture. History of exegesis. One hour. One semester.
One unit.

211. Historical Books of the Old Testament. Exegesis of select passages from the Pentateuch. One hour. One semester.
One unit.

231. Poetical Books of the Old Testament. Exegesis of the Vulgate text of the Psalms. General introduction to Judaic poetry. One hour. One semester. One unit.

241. Prophetical Books of the Old Testament. General introduction to Old Testament prophets and prophesies. Exegesis of the Prophecy of Isaias. One hour. One semester. One unit.

251. The Synoptic Gospels. Select mysteries of our Lord's public life. One hour. One semester. One unit.

261. The Pauline Epistles. Exegesis of the Epistle to the Romans. One hour. One semester. One unit.

271. Old Testament History. Primitive history of mankind. The selection of Israel as the people of God. The Theocracy. The Kingdom. The Exile. Reconstruction. Messianic hopes. One hour. One semester. One unit.

272. New Testament History. The political history of Palestine in the first century of the Christian era. Religious and social life

of the Jews. The life and teachings of our Lord, Jesus Christ. The foundation of the Church. The missionary labors of St. Paul. One hour. One semester. One unit.

275a. Biblical Archæology. Religious Antiquities. Holy places: the Tabernacle, the Temple, the Synagogue. Jewish sacrifices. Priests. Levites. Feasts. One hour. One semester. One unit.

275b. Biblical Archæology. Domestic and Political Antiquities. The house and village. Dress. Food. Marriage. Family life. Civil administration. The Sanhedrin. The Jewish calendar. Money. Weights and measures. One hour. One semester. One unit.

292a, b, c. Criticism and the Old Testament. The history of Pentateuchal criticism. The arguments of the critics. The arguments for Mosaic authorship. Criticism and the Historical Books. The views of the critics regarding the Prophetical Books. One hour. Three semesters. Three units.

293. Criticism and the New Testament. The synoptic problem. Theories of the critics. The Johannine question. The authenticity, integrity and credibility of the four Gospels. One hour. Two semesters. Two units.

294. Social Principles of the New Testament. Christ as the most universal social teacher to whom the world has ever listened. His subordination of the social problem to the religious idea. The New Testament and society, and the family, the individual, labor, authority, riches and poverty. Various opinions concerning the social teaching of the New Testament. Three hours. One semester. Three units.

295. Seminar. Hours and units to be assigned.

SPANISH

1. Elementary Spanish. Elements of Spanish grammar. Drill in pronunciation. Vocabulary. Three hours. First semester. Three units.

2. Elementary Spanish. A continuation of Spanish 1. Syntax, oral and written exercises. Reading from the simpler Spanish prose. Three hours. Second semester.
Prerequisite: Spanish 1. Three units.

3. Intermediate Spanish. Review of grammar and syntax. Oral and written exercises. Reading of somewhat difficult Spanish prose. Three hours. First semester.
Prerequisite: Spanish 2. Three units.

4. Intermediate Spanish. Reading, written and oral exercises. This course aims at preparing the student to read the more difficult Spanish writers. Three hours. Second semester.
Prerequisite: Spanish 3. Three units.

5, 6. Advanced Composition and Reading. Composition; sight reading; oral and written reports in Spanish; historical survey of Spanish literature. Conducted almost entirely in Spanish. Three hours. Both semesters. Six units.

THE OBSERVATORY

ASTRONOMICAL, METEOROLOGICAL AND SEISMOLOGICAL OBSERVATORY

Albert Joseph Newlin, B. S., J. D., D. Sc.
Director of the Observatory

Paul J. Torelli, B. S., LL. B.
Assistant

The Astronomical and Meteorological Observatories were under the immediate direction of the late Father Ricard, known throughout the country as the "Padre of the Rains." In recognition of the work of Father Ricard, the Knights of Columbus of California built the Knights of Columbus Ricard Memorial Observatory, which provides the facilities and equipment for a much more comprehensive investigation of astronomical and meteorological problems, and a correspondingly greater service to the country.

Through its Seismological Station the University is a member of a chain of seismological stations maintained by the Jesuits throughout the world, and has been a pioneer on the Pacific Coast in the recording and observation of seismological disturbances, as well as in the study of their causes.

The University Seismological Station operates two Wiechert seismographs, consisting of one vertical and two horizontal components. Recently, however, a new impetus has been given this branch of geophysical investigation by the construction of a vault embodying all that was found best and latest in stations of this type. The Seismological Station is now in possession of three new Galitzin Seismometers of the long-period type, and two horizontal components of the Wood-Anderson Seismometers which were constructed at Pasadena for this Station, all of which are located in the new vault. The Wood-Anderson Seismometers have been designed for a special study of local earthquakes and are the short-period type. Finally, the University hopes to complete this station by the installation of a "Shortt Synchronome Clock," thus assuring accurate time for all our records.

Of special prominence, however, is the work which has been done in long range weather forecasting through a study of sun spots. This line of study was instituted by the late Father Ricard over a generation ago and in the meantime he has built up a large mass of data in this regard, so that the records and observations at the University are perhaps the most complete of any in the country. Monthly forecasts are sent out regularly from the Observatory. With the aid of such new instruments as the 18.5-inch reflector and the spectroheliograph, the Director of the Observatory will be enabled to pursue his researches with greater facility and success.

DEGREES CONFERRED

May 16, 1936

BACHELOR OF LAWS

Albert J. Ruffo, B.E.E.,'31

BACHELOR OF ARTS

**James A. Bacigalupi, Jr.
David L. Ditto
Stanley S. Hasbrook
**John T. Rickard
*Francis J. Cronin
*Edward A. Gillick
Robert James Madden
William S. Vasconcellos

BACHELOR OF PHILOSOPHY

Emery J. Delmas
Thomas G. Fitzgerald
**Louis C. Doll

BACHELOR OF SCIENCE

Biology

Woodrow E. Lomas

Chemistry

Leo Charles Cullen

Economics

Charles Corriea, Jr.
Walter F. Dunn, Jr.
Edward J. Horgan
Raymond Kaliski
Robert P. Litschi
Jack Francis Daly, Jr.
William T. Dutton
Howard S. Irving
Lincoln Charles Lewis
John Francis Marten, Jr.

English

Richard Emmet Cambiano
Frank W. Doherty
Richard Anthony McCormick
Oscar Richard Del Mutolo
Richard M. Haughian
Stanley Hansen Nelson

Robert A. Rohe

History

John A. Davis

Political Science

Arthur Charles Atteridge
William E. Bacon
Vilas George Dowd
P. Largey MacDonald
William James McDonald
Burke Mitchell
Sidney Vernon Smith

BACHELOR OF CIVIL ENGINEERING

Wilmot J. Nicholson
Paul J. Stafford

BACHELOR OF ELECTRICAL ENGINEERING

*Harold W. Bartlett, Jr.
John T. Mullin

BACHELOR OF MECHANICAL ENGINEERING

Marion B. Hughes
Clair A. Normandin

BACHELOR OF COMMERCIAL SCIENCE

Harold E. Carlsen
Emmett W. Greiner
*Francis W. Harvey
Jack D'Arcy Nagel
*Harold S. Tognazzini
Aristides G. Typaldos
Marshall John Vargas

**Magna cum laude
*Cum laude

EXTRAORDINARY PRIZES

1936

The Nobili Medal, founded by Joseph A. Donohoe, Esq., for the student who shall be deemed first in morals, obedience and application to study, is awarded to James A. Bacigalupi, Jr.

The Silver Medal for Conduct and Application, for the student **in residence** at the University distinguished for application and conduct, is awarded to John T. Rickard.

Distinguished: William J. Adams Jr., George W. Artz Jr., William E. Bacon, Thomas L. Carroll, John A. Chartz, George Conklin Clark, Leo C. Cullen, Frank W. Doherty, Louis M. Farasyn, Harry S. Fenton, John C. Filippini, Harold F. Green, Marion B. Hughes, George F. McCarthy Jr., Harold F. Tognazzini.

The Silver Medal for Conduct and Application, for the student **not resident** at the University distinguished for application and conduct, is awarded to Francis J. Cronin.

Distinguished: Harold W. Bartlett Jr., Anthony S. Belick, Louis C. Doll, William J. Gaspar, Francis W. Harvey, Stanley S. Hasbrook, Richard W. Morton, John T. Mullin, Wilmot J. Nicholson, Leo W. Ruth, Francis G. Wagstaffe.

The Ryland Prizes for Debating, for excellence in the annual Ryland Debate between the Senate and the House, are awarded as follows: First Prize, $20, to Herman J. Mager; Second Prize, $15, to J. George Doll; Third Prize, $10, to George W. Artz Jr.

The McCann Prize of $15 for the best short story is awarded to Walter R. Von Der Ahe.

The Redwood Prize of $25 for the best essay on an historical or political science subject is awarded to Richard W. Morton.

The Owl Prize of $25 for the winner of the annual Oratorical Contest is awarded to Louis M. Farasyn.

The Orella Medal, valued at $25, for the writer of the best paper on a scientific subject, is awarded to John T. Mullin.

The Barchi Prizes, given by Joseph M. Durney, Esq., for the best papers in Chemistry, are awarded as follows: First Prize, $15, to Leo C. Cullen; Second Prize, $10, to Edward S. Cali.

The Dramatic Art Prize, a watch, the gift of Mr. William H. Leahy, for the winner of the Dramatic Art Contest, is awarded to Francis J. Cronin.

The Coolidge Competition Prizes, two medals for the winners of the annual Moot Court in the College of Law, are awarded to Alfred T. Twigg and Francis E. Zingheim.

The Lourdes Prizes, for the best papers on Our Lady of Lourdes, given this year by a friend of the University out of gratitude for a favor received through the intercession of Our Lady of Lourdes, are awarded as follows: First Prize, $15, to Franklyn W. Cullen; Second Prize, $10, to John T. Rickard.

The Raymond Handlery Prize of $25, given this year by Mrs. Rose Handlery in memory of her son, Raymond A. Handlery, of the class of 1934, to the student who shall be deemed to have contributed most to the success of the "Santa Clara," the weekly publication of the University, is awarded to Leo C. Cullen.

REGISTER OF STUDENTS—1936-1937

Abbreviations Used

A. & S.—College of Arts and Sciences
B.A.—College of Business Administration
C.E.—Civil Engineering
Div.—School of Divinity
E.E.—Electrical Engineering
Engr.—College of Engineering
Fr.—Freshman
Gr.—Graduate
Jun.—Junior
M.E.—Mechanical Engineering
Sen.—Senior
Soph.—Sophomore

Acurso, Louis Albert	Soph. Engr.	Visalia
Adams, Eugene Joseph	Soph. A. & S.	Santa Cruz
Adams, William John, Jr.	Sen. M.E.	Santa Cruz
Albanese, Joseph John	Fr. A. & S.	San Jose
Anahu, William Machado	Fr. A. & S.	Honolulu, Hawaii
Andersen, Stanley Robert	Soph. A. & S.	Northfield, Minnesota
Anderson, Kenneth Andrew	Fr. A. & S.	Lindsay
Andre, Peter Richard	Fr. A. & S.	San Luis Obispo
Andriano, Leo Louis B.S., Santa Clara, 1935	II Law	Los Altos
Anello, Peter Louis	Fr. A. & S.	San Jose
Arata, David Paul	Jun. A. & S.	Los Gatos
Arata, George Victor	Fr. Engr.	San Francisco
Arata, James Ralph	Soph. A. & S.	Cupertino
Arismendi, Charles Albert	Soph. Engr.	San Jose
Arnerich, James Anthony A.B., Santa Clara, 1935	II Law	San Jose
Artana, Leo Rinaldo	Jun. A. & S.	San Jose
Artoe, Lee Reno	Soph. A. & S.	Tacoma, Washington
Artz, George Walton, Jr.	Sen. A. & S.	Sacramento
Auvil, Oscar Francis A.B., Gonzaga, 1932, M.A., 1933	I Div.	Spokane, Washington
Ayers, Robert Bruce	Soph. A. & S.	Menlo Park
Bacon, William Edwin B.S., Santa Clara, 1936	I Law	Modesto
Badame, James Anthony	Jun. A. & S.	San Jose
Bailey, Stanley Ellsworth	Fr. B. A.	Palo Alto
Bain, John Anthony	Jun. A. & S.	Los Gatos
Ball, Charles Lewis	Fr. B. A.	Richmond
Ball, Fred George	Fr. B. A.	Richmond
Bannan, Charles Francis	Jun. B. A.	San Francisco
Barbaccia, Joseph Richard	Soph. B. A.	San Jose
Bardin, Charles Walter	Fr. A. & S.	Salinas
Barlow, James Dudley	Soph. A. & S.	Berkeley
Barnola, Pedro Pablo	II Div.	Caracas, Venezuela
Barreiro, John Rafael	Soph. A. & S.	Hanford
Barrett, John Francis	Fr. Engr.	San Mateo
Barry, Fenton Joseph	Fr. A. & S.	Los Gatos
Barton, Richard Edward	Sen. A. & S.	Long Beach

Bassi, Richard Joseph	Jun. A. & S.	San Luis Obispo
Bates, Frank DeWitt	Fr. Engr.	Billings, Montana
Battaglia, Francis Gabriel	Fr. B. A.	San Jose
Bayley, Harry Moore	Jun. A. & S.	Burlingame
Bayley,Norman Cullum	Fr. A. & S.	Burlingame
Beaumont, Robert George	Soph. B. A.	Del Monte
Belick, Anthony Stephen	Sen. A. & S., I Law	San Jose
Bertolani, Lawrence	Soph. A. & S.	Sacramento
Bezore, Albert Edward	Soph. A. & S.	Santa Clara
Biancalana, Raymond Raphael	Fr. A. & S.	San Francisco
Billick, John Joseph	Fr. A. & S.	Los Angeles
Blaettler, Louis Clarence	Soph. A. & S.	Gilroy
Blinn, Ashley Anthony	Fr. A. & S.	Santa Barbara
Bo, Michael Joseph	Soph. A. & S.	San Jose
Bonilla, Manuel Antonio	Fr. A. & S.	San Jose, Costa Rica
Booth, Francis Martin	Fr. Engr.	Marysville
Borrege, Joseph Gumnes	Jun. A. & S.	Los Angeles
Bradley, Nathaniel Oliver	Fr. A. & S.	Visalia
Bradstreet, John Rea	III Div.	Los Angeles
A.B., Gonzaga 1930, M.A., 1931		
Brady, Emmett Edward	Jun. C. E.	Los Gatos
Brady, John Francis	Fr. A. & S.	Los Gatos
Branigan, Bernard Joseph	Fr. A. & S.	Seattle, Washington
Bravo, Arthur Charles	Jun. C. E.	Petaluma
Breen, James Joseph	Soph. Engr.	San Francisco
Breen, James Patrick	Jun. A. & S.	Hollister
Brennan, John Joseph	Soph. A. & S.	Los Gatos
Breschini, Edmund Hughes	Fr. B. A.	San Jose
Bressani, Richard Victor	Fr. Engr.	San Jose
Bricca, Lester Anthony	Soph. A. & S.	San Francisco
Brown, Bryce Templeton	Sen. A. & S.	Salinas
Brown, Don Cornelius	Sen. A. & S.	San Diego
Bruce, William Joseph	Soph. A. & S.	San Francisco
Bruntsch, Ernest Robert	Fr. Engr.	San Jose
Brusher, Joseph Stanislaus	II Div.	San Francisco
A.B., Gonzaga, 1931, M.A., 1932		
Bucchianeri, Gino Joseph	Fr. A. & S.	San Francisco
Buckley, David Joseph	Jun. B. A.	Palo Alto
Burguieres, Ernest Aloysius	Soph. Engr.	New Orleans, Louisiana
Burke, Norman Thomas	Jun. A. & S	San Mateo
Burris, Francis Emil	III Div.	Missoula, Montana
A.B., Gonzaga 1930, M.A., 1931		
Bussi, John Ernest	Sen. E. E.	San Jose
Caffaratti, Darius Francois	Jun. A. & S.	San Jose
Cahill, Charles Frederick	Fr. A. & S.	Los Gatos
Cahill, William John	II Div.	Los Angeles
A.B., Gonzaga, 1931, M.A. 1932		
Cali, Edward Sebastian	Jun. A. & S.	Cupertino
Callahan, John Driscoll	Fr. B. A.	Butte, Montana
Cambou, Ernest John	Fr. Engr.	Glen Ellen
Campobasso, Arnold Francis	Soph. A. & S.	San Jose
Campodonico, Richard Ernest	Soph. A. & S.	San Francisco
Carlin, Henry John	Fr. A. & S.	Los Gatos
Carmody, Robert MacGregor	II Div.	Seattle, Washington
A.B., Gonzaga, 1931, M.A., 1932		

Carroll, Thomas Lonergan	Sen. E. E.	Las Vegas, Nevada
Casassa, Charles Stephen	II Div.	San Francisco
A.B., Gonzaga, 1934, M.A., 1935		
Casassa, Roland Edward	Sen. B. A.	San Francisco
Caselli, James Lynn	Fr. A. & S.	San Jose
Caserza, Louis Manuel	Fr. Engr.	Colma
Cassidy, Bernard Francis	Fr. Engr.	Santa Clara
Cerutti, Louis William	Soph. A. & S.	San Jose
Changala, John Robert	Soph. B. A.	Stockton
Chapman, Jack Kiernan	Fr. A. & S.	Oakland
Chargin, Anthony Joseph	Sen. A. & S., I Law	San Jose
Chartz, John Alfred	Sen. E. E.	Carson City, Nevada
Chiaramonte, Julio	Jun. A. & S.	Gallup, New Mexico
Cipolla, Victor Ignatius	Fr. A. & S.	Santa Clara
Clack, Jordan Anthony	Fr. A. & S.	Reno, Nevada
Clark, Edward Aleshire	Sen. A. S.	Sequim, Washington
Clark, George Conklin	Sen. A. & S.	Santa Monica
Clark, George Edward	Sen. A. & S.	Gilroy
Clarke, Russell Paul	Soph. A. & S.	San Francisco
Claudon, Paul Vincent	Fr. A. & S.	Seattle, Washington
Cline, John Edwin	Fr. A. & S.	Palo Alto
Coenen, Alphonse Lawrence	Soph. A. & S.	Los Gatos
Coffer, Jesse William	Soph. A. & S.	Vallejo
Coles, Hubert McHugh	Soph. A. & S.	Phoenix, Arizona
Collins, Charles William	Fr. Engr.	Evanston, Illinois
Connolly, John Francis	Jun. A. & S.	Los Gatos
Conway, Vincent Michael	I Div.	Wallace, Idaho
A.B., Gonzaga, 1932, M.A., 1933		
Coogan, Samuel John	IV Div.	Yakima, Washington
A.B., Gonzaga, 1929, M.A., 1930		
Cook, Leslie Elwin	Jun. A. & S.	Vallejo
Coony, Charles Raymond	I Div.	Alhambra
A.B., Gonzaga, 1932, M.A., 1933		
Cope, Francis Wallace	Jun. B. A.	Hayward
Corcoran, Albert Clement	IV Div.	San Francisco
A.B., Gonzaga, 1927, M.A., 1928		
Corriea, Stanley Augustine	Jun. A. & S.	San Francisco
Cost, John Alan	Jun. A. & S.	Woodland
Coughlan, James Garrett	Soph. A. & S.	San Francisco
Cowan, Robert Swepson	Fr. B. A.	Saratoga
Crews, Clarence Edward	Jun. A. & S.	Los Gatos
Cristina, Vernon Joseph	Sen. A. & S., I Law	San Jose
Criswell, David Wellington	Soph. A. & S.	Los Gatos
Cronan, Joseph Mervin	Fr. B. A.	San Francisco
Cronin, Francis Joseph	I Law	Santa Clara
A.B., Santa Clara, 1936		
Cronin, Robert Augustine	Fr. A. & S.	Santa Clara
Crowley, George Thomas	I Div.	Los Angeles
A.B., Gonzaga, 1932, M.A., 1933		
Crowley, Wilfred Henry	II Div.	San Francisco
A.B., Gonzaga, 1931, M.A., 1932		
Crowley, William Thomas	Sen. A. & S.	Woodside
Cullen, Franklin William	Jun. B. A.	Gilroy
Cumming, George Warder	Fr. B. A.	Manila, P. I.
Cummins, Meyer	Jun. A. & S.	Honolulu, Hawaii
Cummins, Walter Matthew	Soph. A. & S.	Honolulu, Hawaii

Davis, John Alfred	II Law	San Jose
B.S., Santa Clara, 1936		
Davis, Thomas Dudley	Fr. A. & S.	Plymouth
Deasy, James Joseph	I Div.	Los Angeles
A.B., Gonzaga, 1932, M.A., 1933		
DeBenedictis, Robert Frederick	Soph. A. & S.	San Jose
DeGasparis, Attilio Maurice	Sen. A. & S.	Guadalupe
de la Guardia, Samuel Francisco	Fr. B. A.	Oakland
Delaney, Dean Louis	Jun. A. & S.	Watsonville
DelBiaggio, William Joseph	Soph. A. & S.	Patterson
Delmas, Emery Joseph	I Law	San Jose
Ph.B., Santa Clara, 1936		
Delmas, Robert Elmer	Fr. B. A.	San Jose
DeLuca, Robert Amerigo	Fr. A. & S.	Menlo Park
DeLucchi, Harold Edgar	I Div.	San Francisco
A.B., St. Ignatius (S.F.), 1925, M.A., Gonzaga, 1933		
DeMaestri, Fred Aldo	Sen. A. & S.	San Francisco
DeMarco, Albert Francis	II Law	San Jose
B.S., Santa Clara, 1935		
DeMattei, Victor Sylvio	Jun. A. & S.	San Jose
Depaoli, Louis	Fr. A. & S.	San Francisco
Dequine, Ralph Emerson	Soph. B. A.	San Jose
DeRosa, Don Manuel	Jun. A. & S.	Concord
Devlin, James Joseph	Soph. A. & S.	Los Gatos
DeYoung, Charles Kenneth	Soph. A. & S.	Stockton
Diaz, Augusto Gaspar	Fr. A. & S.	Panama City, Panama
Dieudonne, Roger Joseph	Soph. Engr.	Baker, Oregon
Dingacci, Alphonse Jacob	Jun. A. & S.	Santa Clara
DiRicco, Louis Joseph	Soph. A. & S.	Sacramento
Ditto, David Lawrence	II Law	San Jose
A.B., Santa Clara, 1936		
Dodd, Donald Henry	Jun. A. & S.	Burlingame
Doherty, Edward Joseph	Sen. A. & S.	San Francisco
Doherty, James Alan	Soph. A. & S.	La Canada
Doherty, John Edmund	Fr. A. & S.	La Canada
Doll, John George	Jun. A. & S.	Santa Clara
Doll, Louis Carl	II Law	Santa Clara
Ph.B., Santa Clara, 1936		
Donohue, John Augustine	Soph. A. & S.	Los Gatos
Donohue, Joseph Benedict	Jun. A. & S.	Los Gatos
Donohue, Norman Edward	I Div.	Seattle, Washington
A.B., Gonzaga, 1932, M.A., 1933		
Donovan, John Joseph	Jun. A. & S.	Oakland
Donovan, Milton Daniel	Jun. M. E.	Seattle, Washington
Dougherty, Philip Francis	Jun. A. & S.	San Francisco
Doyle, Patrick Anthony	Fr. A. & S.	Los Gatos
Duarte, Charles Gomes	Fr. A. & S.	Honolulu, Hawaii
Dullea, Charles William	Soph. A. & S.	Los Gatos
Dunn, Thomas Felix	Soph. A. & S.	San Diego
Dusina, Joseph Dan	Soph. A. & S.	Ferndale
Dutton, Eugene Warren	Fr. B. A.	San Francisco
Edge, Lester Peter	Fr. A. & S.	Spokane, Washington
Egan, Willis John	Fr. A. & S.	Los Gatos
Egense, Stanley William	Soph. B. A.	San Jose
Enea, Sam Rogers	Fr. B. A.	Pittsburg

Engberg, Paul Joseph	Fr. A. & S.	Cupertino
Ethen, Robert William	Sen. A. & S.	Palo Alto
Evoy, Gerard Martin	I Div.	Seattle, Washington
A.B., Gonzaga, 1932, M.A., 1933		
Eyrond, Fred Lloyd	Fr. B. A.	Palo Alto
Fahey, George Eugene	Sen. B. A.	Oakdale
Falaschi, Nello Don	Sen. A. & S.	Los Gatos
Fanoe, Neil Heinsen	Soph. B. A.	Gonzales
Farasyn, Louis Marcel	Jun. A. & S.	San Francisco
Farraher, Joseph James	Fr. A. & S.	Los Gatos
Felciano, Manuel Joseph	Soph. A. & S.	Santa Rosa
Felipe, Joe	Fr. A. & S.	Oroville
Fenton, Harry Stephen	Sen. A. & S., I Law	Sacramento
Fernandez, Julio Albert	Fr. A. & S.	San Jose
Ferro, Thomas Louie	Jun. A. & S.	Alameda
Fickerment, Henry	Soph. A. & S.	Los Gatos
Filice, Peter Michael	Jun. B. A.	Gilroy
Filippi, Johnny Matheu	Jun. A. & S.	Hanford
Filippi, William Dan	Fr. A. & S.	San Francisco
Filippini, John Charles	Sen. A. & S.	San Francisco
Filipponi, Elwin Gabriel	Fr. A. & S.	Santa Maria
Finigan, Harry Aloysius	Soph. A. & S.	San Francisco
Finigan, Joseph Henry	Jun. A. & S.	Los Gatos
Finney, Norman Whitfield	Jun. A. & S.	San Jose
Finni, John D.	Fr. A. & S.	Visalia
Fischer, John Eugene	Soph. A. & S.	Los Gatos
Fisher, Everett Earl	Jun. A. & S.	.. Santa Rosa
Fisher, Raymond William, Jr.	Fr. Engr.	San Jose
Fitzgerald, Richard Campion	Fr. A. & S.	Redwoood City
Fitzgerald, Thomas Gerald	II Law	San Jose
Ph.B., Santa Clara, 1936		
Flajole, Arthur James	I Div.	Seattle, Washington
A.B., Gonzaga, 1932, M.A., 1933		
Flanagan, John William	Fr. A. & S.	San Francisco
Foley, Peter Leo	Soph. A. & S.	San Francisco
Ford, Francis Bartholomew	Jun. A. & S.	Los Gatos
Franklin, Louis Bishop	Fr. A. & S.	Los Gatos
Freeman, John Thaddeus	Soph. Engr.	Willows
French, Eldred George	Fr. A. & S.	Berkeley
Fretz, Eugene Johnston	Fr. A. & S.	Mountain View
Fuller, William Lundy	Fr. Engr.	San Jose
Gaffney, John Cyril	IV Div.	Alhambra
A.B., Gonzaga, 1929, M.A., 1930		
Garbarino, Andrew William, Jr.	Jun. A. & S.	Redwood City
Garlinger, Delorma Thomas	Fr. Engr.	San Jose
Garratt, Edward John	Sen. A. & S.	San Francisco
Garrett, James Edward	Soph. Engr.	Pondosa, Oregon
Gaspar, William Joseph	Sen. B. A.	Mountain View
Gearin, John Gordon	Jun. A. & S.	Portland, Oregon
Geary, John Charles	Jun. A. & S.	Los Gatos
Geary, Joseph Matthew	Jun. A. & S.	Los Gatos
Geis, Louis Joseph	I Div.	Seattle, Washington
A.B., Gonzaga, 1932, M.A., 1933		
Giannini, Ralph Joseph	Fr. A. & S.	San Francisco

Gibson, Robert Leonard	Jun. B. A.	San Mateo
Gilbert, Tom Richard	Soph. A. & S.	Seattle, Washington
Gillham, Daniel Grabeau	Fr. Engr.	San Jose
Gillick, Edward Andrew	I Law	Santa Clara
A.B., Santa Clara, 1936		
Gilmore, Peter Francis	Jun. A. & S.	Ketchikan, Alaska
Ginney, Jerald Warren	Jun. A. & S.	San Francisco
Ginocchio, Arthur Eugene	Soph. B. A.	San Francisco
Goehner, Arthur Joseph	Fr. B. A.	Los Angeles
Gomes, Franklin Peter	Soph. Engr.	Honolulu, Hawaii
Gomez, Carlos	Soph. Engr.	Granada, Nicaragua
Gomez, Manuel Calderon	Sen. A. & S.	Indio
Goodell, Ronald Marr	Sen. A. & S.	Oakland
Gore, John Douglas	Fr. A. & S.	Long Beach
Graham, Steve Edmund, Jr.	Soph. Engr.	Santa Clara
Green, Arthur Edward	I Div.	Anoka, Minnesota
Green, Harold Francis	Sen. A. & S.	Beverly Hills
Green, James Frederic	III Law	Beverly Hills
A.B., Santa Clara, 1934		
Green, Richard Hamilton	Soph. A. & S.	Los Gatos
Grisez, Aloysius Joseph	Fr. B. A.	San Jose
Guizado, Gabriel	Fr. A. & S.	Panama City, Panama
Gunther, Wilbur Draper	Soph. A. & S.	San Jose
Guzzetta, Victor Mario	Fr. Engr.	San Jose
Hagan, Frank Martin	Fr. B. A.	Inspiration, Arizona
Haid, Charles Maurice, Jr.	Soph. A. & S.	Palo Alto
Haid, Paul Leo	Jun. A. & S.	Palo Alto
Hamilton, George Tereso	Fr. A. & S.	Oaxaca, Mexico
Hand, Philip Bernard	Sen. E. E.	Palo Alto
Hanley, William Aloysius	II Div.	San Francisco
A.B., Gonzaga, 1931, M.A., 1932		
Hanners, Orville D.	Soph. A. & S.	Palo Alto
Hannon, Justin Aloysius	Fr. A. & S.	San Jose
Harney, Paul John	II Div.	San Francisco
A.B., Gonzaga, 1934, M.A., 1935		
Harp, William Richard	I Law	Lemoore
B.S., Santa Clara, 1935		
Hartmann, John Joseph	Fr. A. & S.	San Jose
Hartwig, Raymond Charles	Sen. A. & S., I Law	San Jose
Hasbrook, Stanley Stephen	II Law	San Jose
A.B., Santa Clara, 1936		
Hauck, Ben George	Soph. A. & S.	Turlock
Hayes, John Myron	Soph. A. & S.	Oakland
Hayn, Carl Hugo	Jun. A. & S.	Los Gatos
Heffernan, Patrick Charles	Jun. B. A.	Stockton
Helfrich, William Joseph	Sen. A. & S.	Menlo Park
Hendricks, William Wallace	Jun. A. & S.	Redwood City
Hesser, John Cornelius	II Div.	Redlands
A.B., Gonzaga, 1931, M.A., 1932		
Hill, Robert Greenberry	Soph. A. & S.	San Jose
Hinderer, Victor Francis	III Div.	St. Paul, Minnesota
A.B., Gonzaga, 1933		
Hoey, John Bernard	Sen. A. & S.	San Mateo
Holman, Jack Garfield	Fr. A. & S.	Petaluma
Horgan, William Patrick	Sen. A. & S.	Reno, Nevada

Hoyt, Emerson Martin	Fr. A. & S.	Oxnard
Hughes, Arnold Anthony	Jun. B. A.	San Jose
Hutcheson, James Marshall	Fr. A. & S.	Eureka
Ingram, David Wilson	Fr. B. A.	Atherton
Jacobs, James Francis	Jun. A. & S.	Los Gatos
Jahn, Henry Melvin	II Div.	Seattle, Washington
A.B., Gonzaga, 1931, M.A., 1932		
Janeczek, Edward Walter	Fr. A. & S.	Passaic, New Jersey
Jenkins, Floyd, Albert	Soph. A. & S.	Los Gatos
Jobst, Richard Valentine	Fr. A. & S.	Peoria, Illinois
Johnson, Alfred William	IV Div.	Laramie, Wyoming
A.B., Gonzaga, 1928, M.A., 1929		
Jones, Patrick Thomas	Soph. A. & S.	San Jose
Joseph, Marvin Anthony	Sen. A. & S., I Law	Hanford
Jurewicz, Felix Josef	Fr. A. & S.	Paterson, New Jersey
Kahn, Richard Aaron	Fr. Engr.	San Francisco
Kane, George Robert	Jun. A. & S.	San Francisco
Kauffman, William Miller	Fr. Engr.	Hollywood
Keane, Joseph Timothy	Soph. A. & S.	Los Gatos
Kelleher, Jerome Ellsworth	Soph. B. A.	Vallejo
Kelly, Edward Michael	Soph. B. A.	Salinas
Kelly, Joseph Aloysius	Jun. A. & S.	Santa Rosa
Kelly, Paul Francis	Jun. A. & S.	San Francisco
Kern, Louis Earle	II Div.	Los Angeles
A.B., Gonzaga, 1932, M.A., 1933		
Kerwin, Dave Malin	Fr. A. & S.	Stockton
Kilkenny, Louis Christi	Jun. A. & S.	Vallejo
Kirsch, Lawrence Mathews	Jun. A. & S.	Pasadena
Kollenborn, Richard Prince	Fr. B. A.	Chico
Kropp, Walter John	III Div.	San Francisco
A.B., Gonzaga, 1930, M.A., 1931		
Lacey, Joseph Patrick	Fr. A. & S.	San Francisco
Larkin, Thomas John	I Div.	Spokane, Washington
A.B., Gonzaga, 1932, M.A., 1933		
Lasater, George Jasper	Fr. B. A.	Oakland
Lautze, Richard Joseph	Soph. B. A.	South San Francisco
Lautze, Robert Fred	Soph. B. A.	South San Francisco
Leahy, John Woodrow	Fr. A. & S.	San Mateo
Leake, Kenneth Edward	Soph. A. & S.	Woodland
LeGault, Eugene Bernard	IV Div.	Spokane, Washington
A.B., Gonzaga, 1930, M.A., 1931		
Lemieux, Albert I.	II Div.	Missoula, Montana
A.B., Gonzaga, 1931, M.A. 1932		
Lemke, Herman George, Jr.	Soph. A. & S.	Honolulu, Hawaii
Lewis, Norvin Joseph	Jun. C. E.	San Jose
Libbey, Louis Robert	Fr. A. & S.	Oakland
Lilley, Robert Clement	Fr. A. & S.	Lompoc
Linsenmeyer, Howard Richard	Soph. A. & S.	Phoenix, Arizona
Littlejohn, Robert Chase	Fr. A. & S.	Los Gatos
Locicero, Frank Joseph	Sen. B. A.	San Jose
Locke, George Raymond	Soph. A. & S.	Sanger

Loewe, William August, Jr.	Fr. B. A.	San Francisco
Logan, Joseph Patrick	II Div.	Seattle, Washington
A.B., Gonzaga, 1931, M.A., 1932		
Louis, Anthony Charles	Jun. A. & S.	Honolulu, Hawaii
Luger, Howard Joseph	II Div.	Spokane, Washington
A.B., Gonzaga, 1931, M.A., 1932		
Lumley, James Phil	Fr. A. & S.	King City
MacDonald, Fred Joseph	Jun. E. E.	San Jose
MacDonald, Raymond Bourke	Fr. A. & S.	Butte, Montana
MacDonald, Thomas Rex	Sen. B. A.	San Jose
Mager, Herman Jacob	Jun. A. & S.	San Jose
Magner, John Francis	IV Div.	San Francisco
A.B., Gonzaga, 1929, M.A., 1930		
Mahoney, Daniel William	Fr. A. & S.	Juneau, Alaska
Maier, John Adam	Jun. B. A.	Parsons, Kansas
Malloy, Richard Joseph	II Div.	Chicago, Illinois
A.B., Xavier U. (Cincinnati), 1930, M.A., St. Louis U., 1932		
Mara, James Ambrose	Jun. A. & S.	Los Gatos
Markey, James Joseph	Soph. A. & S.	Los Gatos
Marre, Robert Bachino	Fr. B. A.	Avila
Martin, Norman Francis	Jun. A. & S.	Los Gatos
Mascovich, Joseph Steven	Soph. Engr.	San Jose
Mathe, Charles Pieere	Fr. A. & S.	San Francisco
Mazzina, Tony Joseph	Jun. C. E.	Los Banos
McCaffrey, Thomas Marion	Soph. Engr.	Los Angeles
McCarthy, Charles Joseph	I Div.	San Francisco
A.B., Gonzaga, 1935, M.A., 1936		
McCarthy, George Francis, Jr.	Sen. A. & S.	Pueblo, Colorado
McCarthy, John Raymond	Fr. A. & S.,	Oakland
McCarthy, Thomas Eldon	Soph. B. A.	Pueblo, Colorado
McCormick, Richard Anthony	II Law	Santa Clara
B.S., Santa Clara, 1936		
McDermott, Elmer James	Fr. B. A.	San Jose
McDonald, Richard Andrew	Fr. A. & S.	Oakland
McDonald, William James	I Law	Stockton
B.S., Santa Clara, 1936		
McDonough, William Henry	Soph. A. & S.	Ventura
McGee, Robert Joseph	Sen. A. & S.	San Francisco
McGinty, Jack Francis	Fr. B. A.	Anaconda, Montana
McGloin, Daniel Lawrence	III Div.	San Francisco
A.B., Gonzaga, 1930, M.A., 1931		
McGlynn, James Patrick	Fr. B. A.	Oakland
McGowan, Clay Anthony	Fr. A. & S.	Willows
McGowan, Harry William	Soph. A. & S.	Willows
McGrorey, Raymond Ignatius	IV Div.	San Francisco
A.B., Gonzaga, 1929, M.A., 1930		
McGuffin, William Francis	Fr. A. & S.	San Francisco
McGuigan, James Taylor	IV Div.	Olympia, Washington
A.B., Gonzaga, 1929, M. A., 1930		
McGuire, Robert Cyril	Sen. A. & S.	Santa Clara
McGurk, Raymond Thornton, Jr.	Soph. B. A.	Stockton
McHenry, Jack Thomas	Jun. A. & S.	Sonora
McHugh, Joseph Irvin	III Div.	Portland, Oregon
McInnes, Donald John	Jun. C. E.	Los Angeles

McNabb, Paul Vincent	II Div.	Spokane, Washington
A.B., Gonzaga, 1931, M.A., 1932		
McNeil, Louis Arthur	I Div.	Vancouver, B. C.
A.B., Gonzaga, 1931, M.A., 1932, Ph.D., Catholic U., 1937		
Meagher, Edward Arthur F.	Soph. A. & S.	Seattle, Washington
Meckes, John Charles	I Div.	Portland, Oregon
A.B., Gonzaga, 1931, M.A., 1932		
Melanson, Charles Hector	Sen. B. A.	San Diego
Mieuli, John Peter, Jr.	Sen. B. A.	San Jose
Milhaupt, Arthur Anthony, Jr.	Fr. A. & S.	San Mateo
Miraglia, Frank Anthony	Fr. A. & S.	San Francisco
Misegades, John Arthur	Jun. B. A.	San Francisco
Missamore, Harold Laurin	Fr. A. & S.	San Francisco
Molina, Clement Loring	Fr. B. A.	Watsonville
Molinari, Milton Cecil	Fr. B. A.	Salinas
Monaghan, James Thomas	Jun. A. & S.	Los Gatos
Moore, Francis Alden	Soph. A. & S.	Los Gatos
Morabito, Victor Pasquale	Fr. A. & S.	San Francisco
Morey, Herbert Anthony	Fr. A. & S.	San Francisco
Morton, Richard Wallace	Sen. A. & S., I Law	Campbell
Muccigrosso, Benedict John	Fr. A. & S.	San Jose
Mulcahy, Richard Edward	Jun. A. & S.	Los Gatos
Mullen, Edward Reeg	Soph. Engr.	Los Gatos
Murphy, Thomas Richard	Soph A. & S.	San Francisco
Murray, Thomas Hall, Jr.	Jun. B. A.	Phoenix, Arizona
Nagel, Franz Davenport	Sen. E. E.	San Mateo
Naughton, John Francis	Fr. A. & S.	Seattle, Washington
Naumes, Robert Arthur	Jun. B. A.	Medford, Oregon
Nelson, Albert Walter	Fr. Engr.	San Francisco
Nelson, Edward John	Soph. A. & S.	Sacramento
Nelson, Stanley Hansen	I Law	San Luis Obispo
B.S., Santa Clara, 1936		
Nemecek, Raymond William	Fr. A. & S.	Berwyn, Illinois
Neuman, Jack Webster	Soph. B. A.	Redwood City
Neville, John Joseph	Soph. A. & S.	Salt Lake City, Utah
Newman, Bernhard Emil	Fr. B. A.	Concord
Nichols, Burritt Fauth	Fr. A. & S.	Seattle, Washington
Nuttall, George Bartley	Fr. A. & S.	Merced
O'Brien, Frank Joseph	Soph. B. A.	Avalon
O'Brien, John Theodore	I Div.	Spokane, Washington
A.B., Gonzaga, 1932, M.A., 1933		
O'Brien, Robert Ruane	Sen. A. & S.	Burlingame
O'Callaghan, Louis Thomas	III Div.	Seattle, Washington
A.B., Gonzaga, 1930, M.A., 1931		
O'Connor, Edward Hurley	Jun. A. & S.	San Francisco
O'Connor, Robert Joseph	Fr. A. & S.	San Mateo
O'Connor, Sylvester Joseph	Fr. A. & S.	Bakersfield
O'Connor, Terrence Raymond	Jun. A. & S.	Los Gatos
Odegaard, Oscar Thomas	Fr. A. & S.	Nevada City
O'Donnell, Bernard Vincent	Soph. A. & S.	Vallejo
O'Gara, Joseph Gordon	Soph. A. & S.	Los Gatos
O'Hara, Jack Anthony	II Law	Atherton
A.B., Santa Clara, 1935		

O'Hara, James Vincent	Sen. A. & S.	Vallejo
O'Hara, John Francis	Soph. A. & S.	Oakland
O'Hara, John Joseph	II Div.	Seattle, Washington
A.B., Gonzaga, 1931, M.A., 1932		
O'Hara, Paul Edward	Sen. B. A.	Vallejo
O'Leary, Timothy Joseph	I Div.	Butte, Montana
B.S., Gonzaga, 1932, M.A., 1933		
O'Mara, Cornelius Joseph	II Div.	San Francisco
A.B., Gonzaga, 1931, M.A., 1932		
O'Neil, John William	Fr. B. A.	San Diego
O'Reilly, Timothy Ignatius	III Law	San Luis Obispo
B.S., Santa Clara, 1935		
O'Shea, Jerry Francis	Jun. C. E.	San Francisco
O'Sullivan, Carroll Michael	II Div.	San Mateo
A.B., Gonzaga, 1931, M.A., 1932, Ph.D., Stanford, 1935		
Oswald, Gerald Albert	III Div.	Tacoma, Washington
O'Toole, Fenton Gervase	Soph. A. & S.	Los Gatos
O'Toole, James Vincent	Soph. A. & S.	San Francisco
Otten, Jack	Sen. A. & S.	San Francisco
Paganini, J. Paul	Soph. A. & S.	San Francisco
Pallas, Aloysius Raymond	Jun. A. & S.	Los Gatos
Panattoni, Adone Victor	Jun. A. & S.	Sacramento
Papez, John Nickola	Soph. Engr.	McGill, Nevada
Pardini, Caesar Joseph	Fr. Engr.	San Jose
Partmann, Fred Edward	Fr. A. & S.	San Francisco
Patterson, Lloyd Bale	Fr. A. & S.	Healdsburg
Pavelko, Charles A.	Soph A. & S.	Baldwin Park
Pelfini, Rinaldo Fred	Sen. B. A.	San Francisco
Pellegrini, Bruno	Soph. A. & S.	Vallejo
Perrin, Jules Joseph, Jr.	Soph. A. & S.	Lodi
Pestarino, Angelo Theodore	Jun. A. & S.	San Jose
Petit, John Camarillo	Jun. A. & S.	Camarillo
Pettid, Edward Joseph	Jun. A. & S.	Los Gatos
Pfeiffer, John	Fr. Engr.	Los Gatos
Piuma, Milton Stephen	Soph. A. & S.	Van Nuys
Playoust, Alfred George	Sen. A. & S.	Los Gatos
Plushkell, Robert Bernard	Fr. A. & S.	Los Gatos
Polhamus, Isaac	Fr. Engr.	Yuma, Arizona
Portalupi, Henry Celeste	Jun. A. & S.	San Jose
Porter, Chester Dana	Fr. A. & S.	Arroyo Grande
Preston, John Joseph	III Div.	Los Angeles
A.B., Gonzaga, 1930, M.A., 1931		
Prudhomme, Edward Louis J.	Sen. A. & S.	Portland, Oregon
Puppo, John Baptist	Fr. B. A.	Stockton
Purdy, D'Arcy Albert	Fr. B. A.	San Jose
Radunich, Nick John	Sen. A. & S.	San Jose
Rankin, John Alden	Fr. A. & S.	Los Gatos
Ransford, James Edward	II Div.	Los Angeles
A.B., Gonzaga, 1931, M.A., 1932		
Reed, Thomas Anthony	Soph. A. & S.	Los Gatos
Reilly, James John	Fr. A. & S.	Los Gatos
Reilly, James Patrick	Jun. C. E.	Palo Alto
Richter, John Edward	Soph. Engr.	San Jose

Rinn, Emmett John	III Div.	Spokane, Washington
A.B., Gonzaga, 1930, M.A., 1931		
Robinson, William John	Fr. A. & S.	Spokane, Washington
Roche, Jack Joseph	Fr. A. & S.	San Carlos
Rodgers, Lionel Anthony	Sen. A. & S.	Vallejo
Ruth, Leo William	Sen. C. E.	San Jose
Rurjicka, Otto John	Fr. A. & S.	San Jose
Ryan, Frank Robert	Soph. Engr.	Hollywood
Ryan, Harold Francis	I Div.	Hollywood
A.B., Gonzaga, 1932, M.A., 1933		
Ryan, Richard John	Soph. A. & S.	San Diego
Ryan, Thomas Michael	Fr. A. & S.	San Jose
Ryan, William Bernard	Fr. B. A.	San Francisco
Samarzich, Warren Nicholas	Jun. E. E.	San Francisco
Sanfilippo, Philip Salvatore	Sen. A. & S., I Law	San Jose
Sanguinetti, Francis Eugene, Jr.	Soph. A. & S.	Yuma, Arizona
Sanoff, Nicholas	Soph. A. & S.	San Francisco
Sanor, George Richard	Fr. A. & S.	Lompoc
Schad, John Edward	Fr. Engr.	San Jose
Schaectel, Joseph William	III Div.	San Francisco
A.B., Gonzaga, 1930, M.A., 1931		
Scheppler, Ernest Alvin	Soph. A. & S.	Burlingame
Schick, Floyd, Jr.	Jun. A. & S.	Seattle, Washington
Schiechl, John George	Fr. A. & S.	Sacramento
Schiefer, Paul Joseph	Fr. B. A.	San Diego
Schmidt, Curtis William	Soph. A. & S.	Sacramento
Schneider, Clemens Joseph	I Div.	Los Angeles
A.B., Gonzaga, 1932, M.A., 1933		
Scholk, Robert Wray	Fr. A. & S.	Santa Cruz
Schweitzer, Joseph Lawrence	Soph. A. & S.	San Francisco
Schwerin, Lytton Charles	Soph. B. A.	San Anselmo
Scott, George Walter	Sen. A. & S.	Los Altos
Secondo, Stanley Norman	Sen. B. A.	Watsonville
Selenger, Walter Kingsley	Soph. A. & S.	Mountain View
Seramin, Harold Alexander	Sen. A. & S.	San Francisco
Shando, Edward John	Soph. B. A.	Garfield, New Jersey
Shaules, Patrick Russell	Fr. A. & S.	Los Gatos
Shay, Evan Maurice	Fr. Engr.	Gilroy
Shea, John Lawrence, Jr.	Soph. B. A.	Port Henry, New York
Sheehy, John Jerome	Jun. A. & S.	San Jose
Sheerin, Bernard Ignatius	III Div.	San Francisco
A.B., Gonzaga, 1930, M.A., 1931		
Silva, Delbert Leo	Soph. A. & S.	Santa Clara
Simonetta, Frederick Robert	Sen. E. E.	San Jose
Sinclair, William John	Fr. A. & S.	San Francisco
Small, Harold Osmane	IV Div.	Missoula, Montana
A.B., Gonzaga, 1929, M.A., 1930		
Smith, Allan Hugh	Soph. A. & S.	Baker, Oregon
Smith, Frank Warren	Jun. A. & S.	Picayune, Mississippi
Smith, James Joseph	Soph. A. & S.	Shelton, Washington
Smith, Walmsley James	I Div.	Melbourne, Australia
B.E.E., Melbourne University, 1930		
Smith, Walter Thomas	Soph. A. & S.	Pasadena
Snyder, Holbrook	Sen. M. E.	San Jose
Solon, John Joseph	Jun. A. & S.	Los Gatos

Soreghan, Philip Joseph A.B., Gonzaga, 1929, M.A., 1930	IV Div.	Portland, Oregon
Souza, Irving A.	Sen. A. & S.	San Jose
Speciale, Joachim Joseph	Soph. A. & S.	San Jose
Spils, James Conrad A.B., Gonzaga, 1929, M.A., 1930	IV Div.	Colton, Washington
Stanley, Edward Glynn B.S., Santa Clara, 1935	III Law	Vallejo
Stevenson, Douglas Francis	Soph. A. & S.	Los Gatos
Stretch, Edward Matthew A.B., Gonzaga, 1931, M.A., 1932	II Div.	Oakland
Stringari, Lawrence Salvidor	Fr. A. & S.	Canon City, Colorado
St. Sure, Donald Francis A.B., Gonzaga, 1935, M.A., 1936	I Div.	San Francisco
Stubler, Nicholas John	Fr. A. & S.	Pueblo, Colorado
Sugrue, Gerald Aloysius A.B., Gonzaga, 1931, M.A., 1932	II Div.	San Francisco
Sullivan, Edward Donald	Fr. A. & S.	Reno, Nevada
Sullivan, John Joseph A.B., Gonzaga, 1929, M.A., 1930	IV Div.	Hoquiam, Washington
Sullivan, Joseph Aloysius	Sen. A. & S.	Menlo Park
Sullivan, Joseph Daniel	Fr. B. A.	Visalia
Sullivan, Robert Francis	Soph. A. & S.	Santa Clara
Suver, Charles Francis A.B., Gonzaga, 1930, M.A., 1931	III Div.	Ellensburg, Washington
Sweeney, Henry Leo A.B., Gonzaga, 1928, M.A., 1929	IV Div.	Tacoma, Washington
Sweeney, John Daniel	Sen. A. & S.	San Francisco
Sylva, Jack Joseph	Fr. Engr.	Stockton
Tait, Alexander Anthony	Jun. A. & S.	Los Gatos
Thelen, Paul James	Soph. A. & S.	San Diego
Thom, John Girdwood	Fr. A. & S.	Los Angeles
Thomas, Ivan Gray	Jun. B. A.	Burlingame
Thornton, Robert Thomas	Sen. E. E.	Livermore
Timmons, Edward Aloysius A.B., St. Louis University, 1930, M.A., 1931	II Div.	Cleveland, Ohio
Tobin, Joseph Crosby	Fr. A. & S.	Oakland
Toner, Erwin John A.B., Gonzaga, 1931, M.A., 1932	I Div.	Spokane, Washington
Toomey, William Dennis	Fr. A. & S.	Honolulu, Hawaii
Treat, Carlin Alexander	Fr. A. & S.	San Andreas
Treat, George H.	Sen. C. E.	San Andreas
Trembley, Robert Lawrence	Soph. Engr.	Tulare
Turturici, Anthony Santo	Jun. A. & S.	San Jose
Twigg, Alfred Timothy A.B., Santa Clara, 1935	III Law	San Jose
Twohy, Kevin Rogers	Soph. A. & S.	San Francisco
Vachon, Hayden Alexander A.B., Gonzaga, 1931, M.A., 1932	II Div.	Boston, Massachusetts
Vanvales, Demosthenes Mitchell	Jun. E. E.	Mountain View
Vasconcellos, Arthur Leslie	Jun. A. & S.	Santa Clara
Vinassa, Sylvio Bartholomew	Jun. B. A.	Santa Clara
Vivian, Charles William	Jun. A. & S.	Phoenix, Arizona
Vizzard, James Leo	Jun. A. & S.	Los Gatos

Volpe, Raymond Julian	Jun. A. & S.	San Jose
Von Der Ahe, Karl Edwin	I Div.	Los Angeles
A.B., Gonzaga, 1935, M.A., 1936		
Von Der Ahe, Walter Rudolph	Sen. A. & S.	Los Angeles
Von Tobel, George Woodruff	Fr. Engr.	Las Vegas, Nevada
Vukota, Francis William	Sen. A. & S.	Livermore
Wagner, John Robert	Soph. A. & S.	San Francisco
Wagstaffe, Francis Gerard	Jun. A. & S.	Burlingame
Walker, Edward Leslie	Soph. B. A.	Santa Cruz
Wall, Joseph Broderick	Jun. A. & S.	Los Gatos
Walsh, David Joseph	Jun. A. & S.	Los Gatos
Walsh, John Joseph	Fr. A. & S.	Chicago, Illinois
Ward, Adrian Lawrence	Sen. B. A.	Menlo Park
Waters, John Lloyd	Sen. C. E.	San Andreas
Waters, William Edward	Soph. B. A.	San Mateo
Weber, John Anthony	I Div.	Alameda
A.B., Gonzaga, 1932, M.S., 1933		
Weller, William Matthew	I Div.	Spokane, Washington
A.B., Gonzaga, 1932, M.A., 1933		
Werts, Hilary Robert	III Div.	Los Angeles
A.B., Gonzaga, 1929, M.A., 1930		
Wesley, Gerald James	Soph. A. & S.	Phoenix, Arizona
Wharton, Arthur Stanislaus	II Div.	Berwyn, Alberta
A.B., Gonzaga, 1931, M.A., 1932		
White, Russell Michael	III Div.	Butte, Montana
A.B., Gonzaga, 1930, M.A., 1931		
Whitehurst, Joseph Albert	Fr. A. & S.	San Jose
Whitfield, Mathew Paul	Jun. A. & S.	Mission San Jose
Whittle, Albert John	Soph. A. & S.	Redwood City
Williams, Charles William	Jun. B. A.	San Jose
Williams, Leon Woodrow	Fr. A. & S.	Watsonville
Williams, Vincent Francis	Sen. A. & S.	Santa Cruz
Wilson, Earl David	Fr. A. & S.	Beverly Hills
Wilson, Erwin Earl	Fr. A. & S.	Beverly Hills
Wolf, Theodore	II Div.	Sublimity, Oregon
A.B., Gonzaga, 1931, M.A., 1932		
Wolff, William Alvord	Soph. Engr.	San Francisco
Woo, Harry Albert	Fr. Engr.	San Francisco
Young, Allen Roger	Fr. A. & S.	San Jose
Young, Walter James	Soph. A. & S.	Medford, Oregon
Zappelli, Adolph Joseph	Fr. A. & S.	San Jose
Zaulig, John Frederick	Soph. Engr.	Honolulu, Hawaii
Zehner, Fenton John	Fr. A. & S.	Blairsden
Zell, Harry Joseph	Fr. A. & S.	San Marino
Zeman, Edward James	IV Div.	Los Angeles
A.B., Gonzaga, 1930, M.A., 1931		
Zingheim, Francis Eugene	III Law	San Jose
B.S., Santa Clara, 1935		

JESUIT EDUCATIONAL ASSOCIATION

COLLEGES AND UNIVERSITIES

Alabama	Spring Hill College, Spring Hill
California	Loyola University of Los Angeles
	Santa Clara University, Santa Clara
	University of San Francisco
Colorado	Regis College, Denver
District of Columbia	Georgetown University, Washington
Illinois	Loyola University, Chicago
Louisiana	Loyola University, New Orleans
Maryland	Loyola College, Baltimore
Massachusetts	Boston College, Newton
	Holy Cross College, Worcester
Michigan	University of Detroit
Missouri	Rockhurst College, Kansas City
	St. Louis University, St. Louis
Nebraska	The Creighton University, Omaha
New Jersey	St. Peter's College, Jersey City
New York	Canisius College, Buffalo
	Fordham University, New York City
Ohio	John Carroll University, Cleveland
	Xavier University, Cincinnati
Pennsylvania	St. Joseph's College, Philadelphia
Washington	Gonzaga University, Spokane
	Seattle College, Seattle
Wisconsin	Marquette University, Milwaukee